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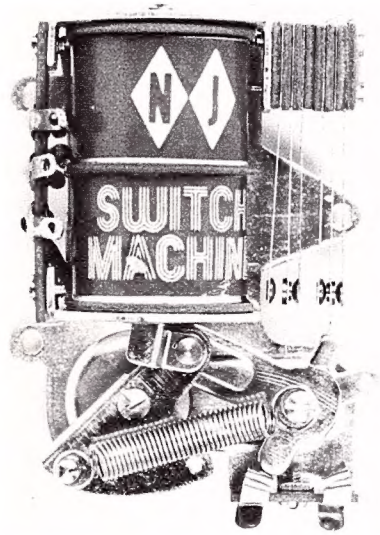

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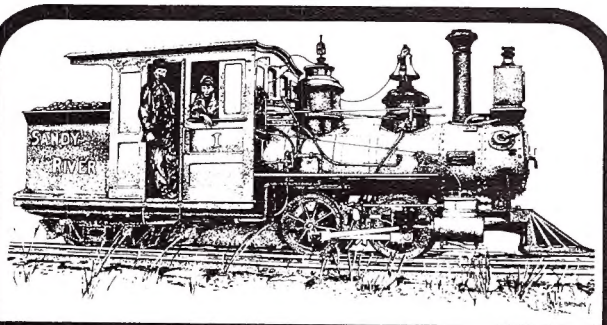

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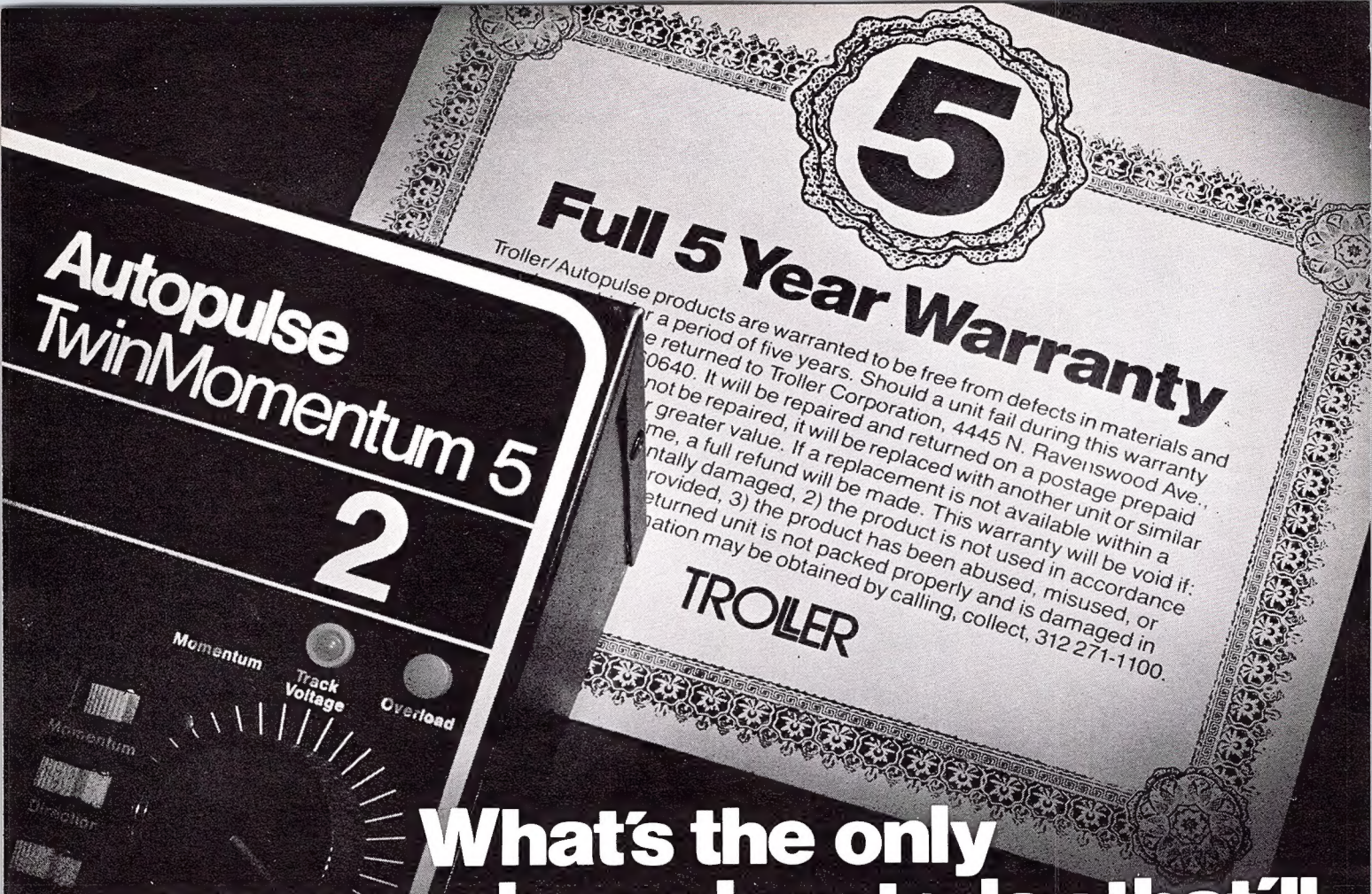
Cover

Artist, modelmaker, and manufacturer Jim Finnell painted the cover for this issue. Jim is the owner of Durango Press. His skill as an artist is evident in this beautiful painting of Sandy River #15 waiting to do her job.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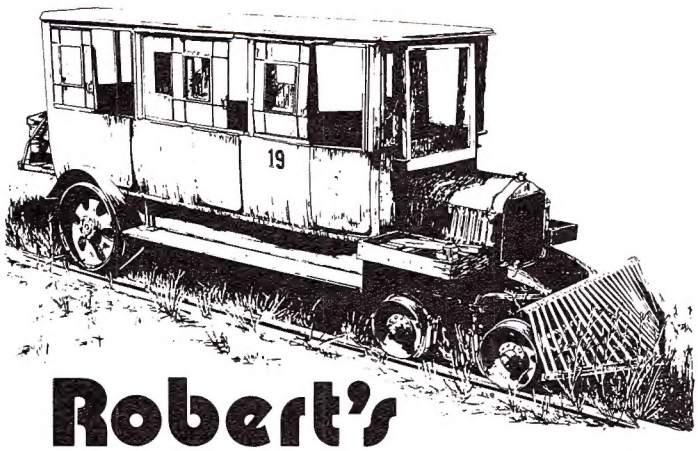

Robert's Ramblings....

The first **GAZETTE/MODEL DIE CASTING LOCO-BASHING** contest is over and I want to thank everyone who made it such a success. My thanks to Charlie Getz for his ideas and organization. Thanks to Irene for putting up with the whole thing, thanks to MDC for the prizes and support, thanks to Dick Appel of MDC for printing the awards and most of all thanks to all of you who took the time to bash a 2-8-0 and then enter it in the contest. The response to the contest was overwhelming and the judging was difficult. When it came time for Charlie and me to judge the contest we found that we could not decide on one first place winner. We had two beautiful freelance Beyer Garratt entries on the top of the pile and we could not decide between them. So we chickened out and gave two first place awards. After we awarded second and third place prizes, we decided that there were so many good models that we created a special award which we called "High Honors". We awarded six "High Honors" and 31 honorable mentions.

The models were judged on their originality, execution and final appearance. We were pleased to see the Beyer Garratts since they were such a creative use of the MDC engines. There was one other Garratt but it was incomplete at the time of entry. Several camel backs were entered. This eastern influence was a welcome variety amidst the Colorado conversions. There actually was a three-foot camel back built by Baldwin for an eastern steel mill operation. However, the Southern Pacific also owned a coal burning standard gauge camel back so they are not totally eastern. As you see the various winners in this and future issues of **GAZETTE**, you will get an idea of the number of creative modelers reading the **GAZETTE**. I have listed the home town of each winner. Several modelers who entered mentioned that they just wanted to show off their work and participate in the fun of the contest. One husband and wife team entered a particularly fine model and were very pleased by the joint effort. Thats a good way to share your hobby.

The two first place winners each received a $100.00 savings bond and a one year subscription to the **GAZETTE**. The second place winner received a $50.00 bond and a two year subscription to the magazine. The third place winner received a $25.00 bond and a one year subscription. The first three "High Honors" winners were also given a one year subscription. Everybody who entered received a certificate lovingly printed on a vintage press by Dick Appel. Congratulations to all.

The two first place models are presented in this issue. Second and third place winners will be presented in a future issue. I will then present the five "High Honors" models in a following issue and if space permits a potpourri of the honorable mentions later in the year.

Here are the winners:

First Place: Barton Cook, Simi, CA and David Scruggs, El Paso, TX
Both won with Beyer Garratt models.

Second Place: David Gard, Pasadena, CA RGS #375

Third Place: Richard B. Voss, Staten Island, NY
2-8-0 camel back

High Honors:
Deane Mellander, Beltsville, MD
EBT 2-8-2
D. F. Gilder, Binfield Bracknell, England
2-8-2
David M. Cummins, Anaheim, CA
Sn2 2-6-6-2
Garrett Wortman, Dacono, CO
Sn2 2-6-0
Jerry Wilson, Longmont, CO
Sn2 2-6-0
D.E. Davis, Longdon, England 2-8-2T

Honorable Mention:
David Ball, Rio Nido, CA 2-8-2
Robert Bennett, Albion, ME 2-8-0
Remo Bianco, Baldwinsville, NY 2-8-0
Kendrick Bisset, Naperville, IL
Beyer Garratt
R. F. Blaisdell, Champaign, IL 2-8-2
Mr. & Mrs. William Dougherty, Aurora, CO
2-8-0
Robert Dubois, Albuquerque, NM 2-8-0
Bruce Epler, National City, CA 2-8-0
Mike Horner, Idaho Springs, CO 2-8-0
Tom Jones, Redmond, OR 2-8-0
John McEntire, Las Vegas, NV 2-8-0
William Malick, San Diego, CA 2-8-0
Don Mauger, Pueblo, CO 2-8-0
Philip Morrow, Kings Park, Australia
2-8-2 ST
Bruce R. Pier, Spring Valley, CA 2-8-0
Robert Pumphrey, Baltimore, MD
2-8-0 and K-27
George Rappelyea, Martinsville, N.J.
2-10-0
Steve Riddlebaugh, Fairview Park, OH
2-8-2
Dick Schafer, Aurora, CO 2-8-0
John Scherr, St. Louis, MO 2-8-0
William Schimmelman,
Spring Lake Park, MN 2-8-0
Benjamin Sharp, Prairie Village, KS 2-8-0
Wayne Sittner, Kingston, NY 2-8-0
Al Sohl, Medford, NY 2-8-0
Paul Sullivan, Arlington, MA 2-8-0
John Swiger, Merced, CA 2-8-2
Robert Thatcher, Arlington VA 2-8-8-2
Andrew Thompson, Clarksville, AK
2-8-0 camel back
T. Vanden Bosch, Redwood City, CA
2-8-0
Ronald Welch, Gallup, NM 2-8-0
Paul White, Saline MI 2-8-0 camel back

Many thanks again to everybody who entered. As you can see the **GAZETTE** is widely read by a group of creative modelers. We hope all who entered had an enjoyable time of kit bashing. Although the judging was difficult *we* enjoyed seeing so much workmanship and creativity. And we know for sure that there are a lot of pikes out there with a new piece of motive power.

Bob Brown

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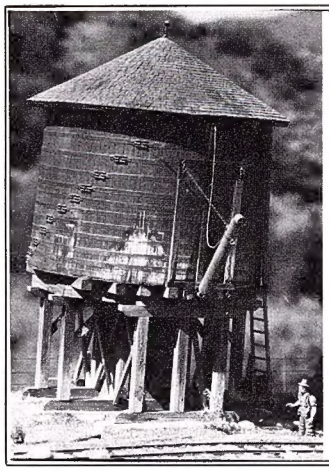

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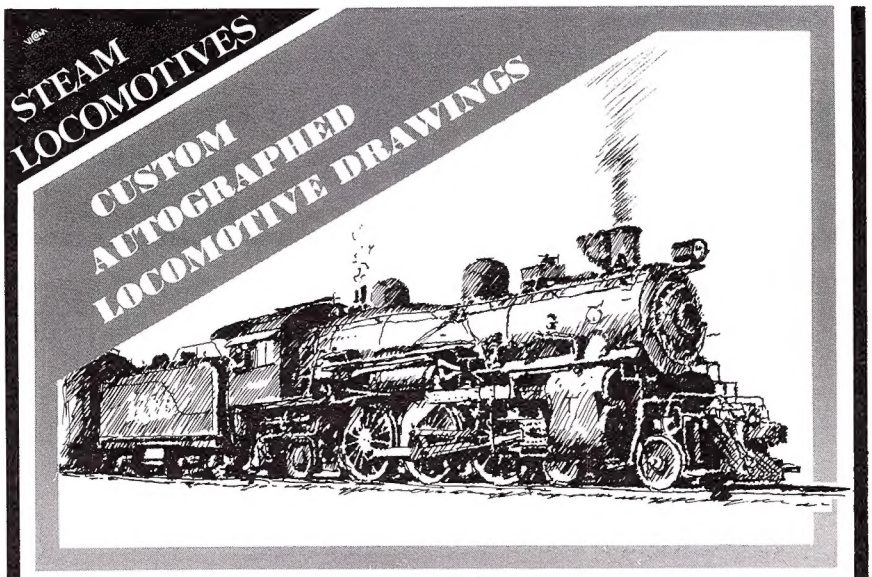

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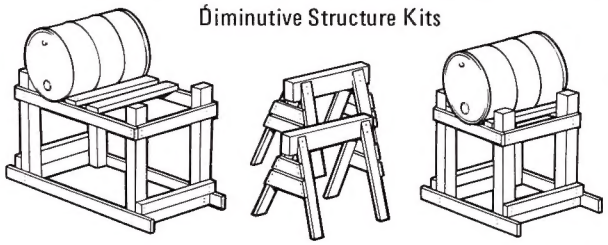

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Dear Bob,

Congratulations on your great magazine. I was particularly impressed with your EBT issue and am looking forward to more EBT issues.

Perhaps some of your readers could help me:

1. Since the EBT claypit at Shirleysburg belongs to our family, and since no one ever did a very good job of keeping records, does anyone have any information on this? I'd be interested in knowing what kind of cars and engines were used on the branch, how often it was used and whether there were any special loading facilities. Photos would be particularly appreciated.

2. I would also like any information or photos on the central PA lines, Tuscarora Valley and Kishacoquillas Valley. I will gladly offer any of your interested readers information on European narrow gauge lines.

Keep up the good work.

Sincerely,

John R. Snyder
Hershey, PA

Gentlemen,

In regards to the article in the Sept./Oct. 1979 **GAZETTE** entitled Painting Two-Foot Gauge Cars by Peter Barney, I find a few minor discrepancies on the painting of cars on the Bridgton and Saco River RR.

As can be noted from the picture of #3 the trim on the trailing box car is darker. The best information available to me at this time is that prior to 1913 and the take-over of the B&SR by the NY, NH, &H the cars were painted gray with red trim. However some photos show that the trim remained unpainted. After 1913 and by 1915 the cars were painted roughly box car red. The MEC which had operating control over the B&SR used paints essentially purchased from the Burgess-Forbes Co. of Portland, being excess barn-red produced by that company and mixed with other pigments to be a box car red. Thus there was variation between patches procured. This information came from Bill McLin and Walter Makey (yard foreman at the Junction from 1915 to 1941). It was also during the period 1913-1915 that the stations were also repainted to conform to the MEC standard.

Until 1913 the coaches were painted a dark olive color – likely somewhat darker than Brunswick green as all were primed with a black primer said to have been made from buttermilk. (I scrapped #25 just prior to moving to Edaville and the original coat of paint is as described). Color movies taken in the forties show that cars #15, #16, and #17 were painted a coach green. Car #18 was MEC B&M maroon. Prior to 1913 all coaches were housed in sheds during the winter and were regularly repainted, at least annually varnished.

This leaves the question of color of #101 open. It was originally used in passenger service during the winter and is referred to as the "saloon car". A photo in my collection taken in early 1883 shows no difference in hue between the coaches and #101. In later years #101 saw service on the snow trains as a place for the shovellers to get warm. In the rail-fan period #101 was dressed up for the occasion. No color photos have shown up to date.

No accurate information, as of this date, as to colors of the tank cars. Hopefully this will be forthcoming. In the summer of 1941 the windows of #7 were trimmed in red.

Sincerely,

Robert Outland
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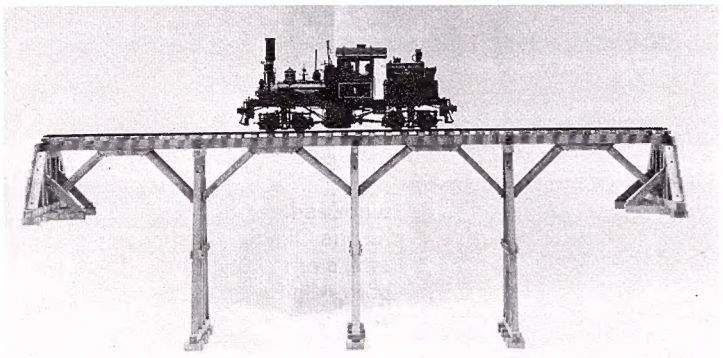

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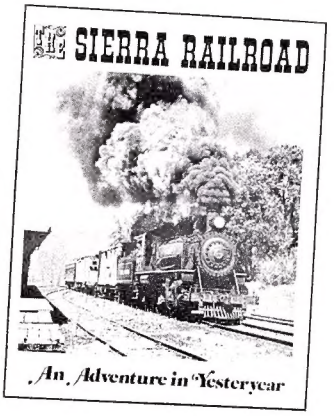

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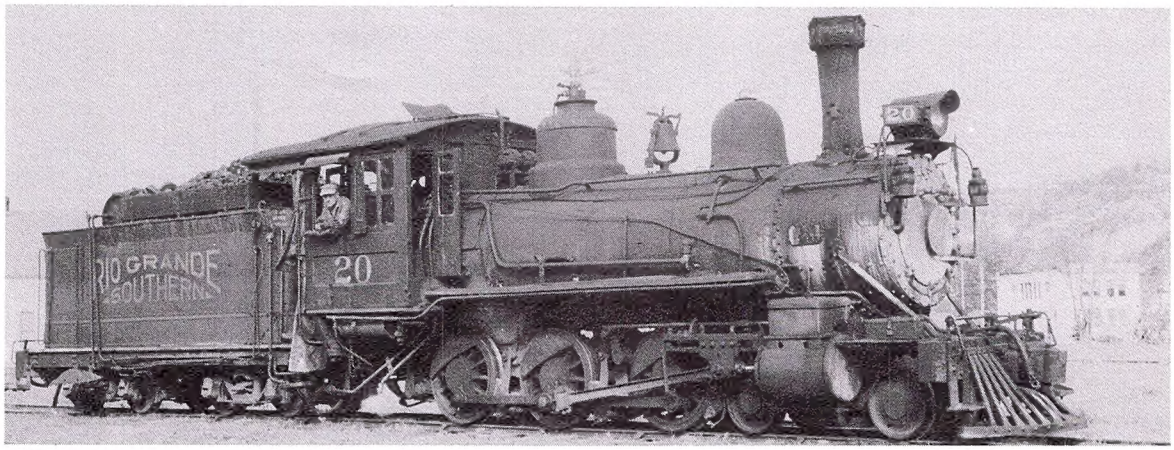

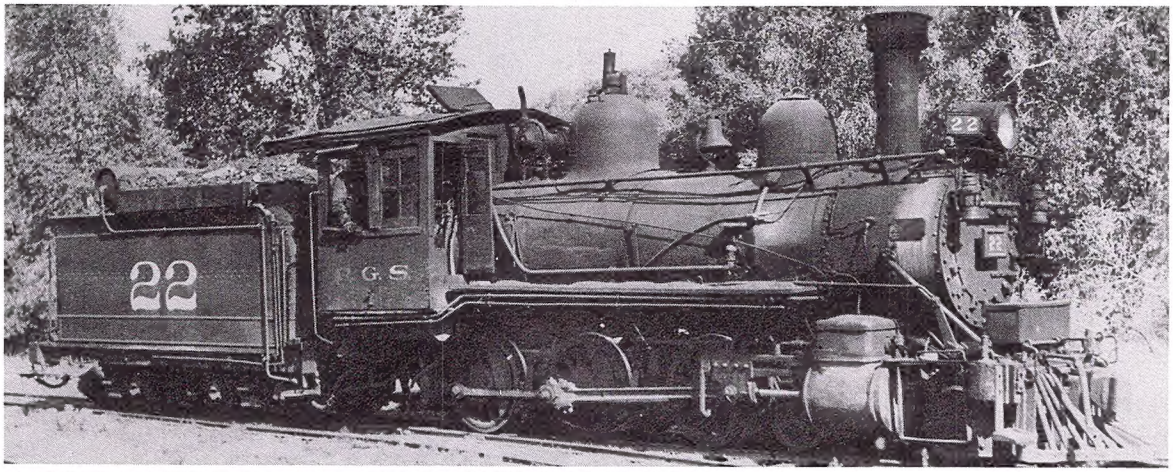

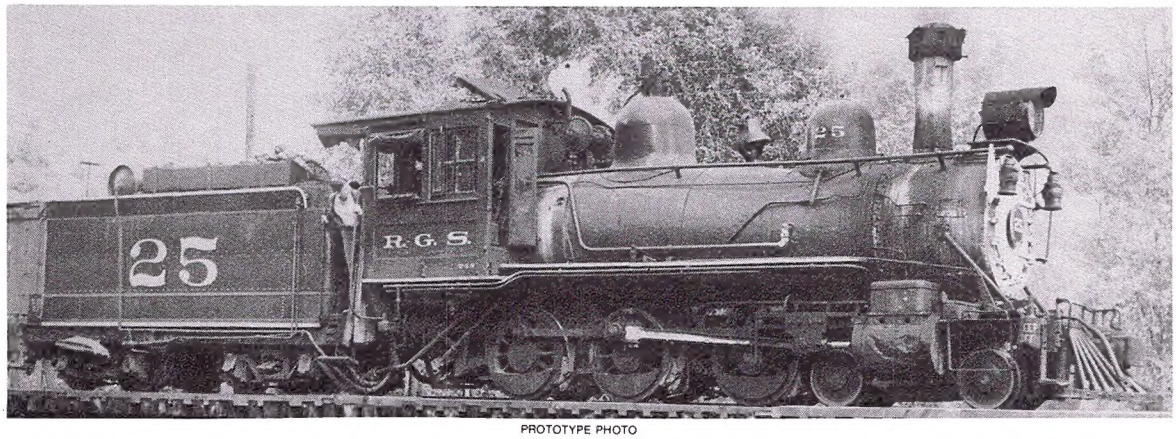

PROTOTYPE PHOTO

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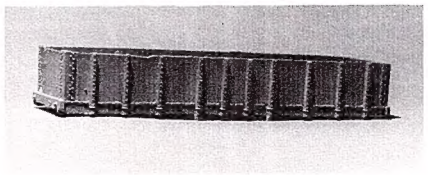
SCENIC LINE

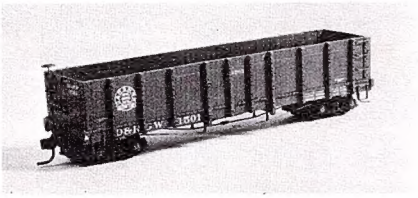
Coming this month from Sunset Models the RGS numbers 20, 22 and 25, these classic ten wheelers will be available in On3. Diminutive in size, all three performed yeoman service on the RGS from the turn of the century until the mid-forties. Number 25 was retired to supply parts for the "20" while the "22" went on to the Southern Pacific narrow gauge in California.

All three locomotives will be available in very limited quantity yet all will be completely detailed by PSC in keeping with Sunset's tradition of fine On3 locomotives. Stay in touch with your nearest Sunset dealer for information of the "Pride of the Rio Grande Southern" and other new releases.

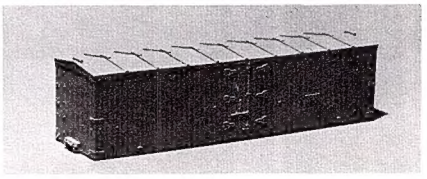
NEW - D&RGW HIGH SIDE GONDOLA - HOn3

Gondola Casting





Reefer Casting



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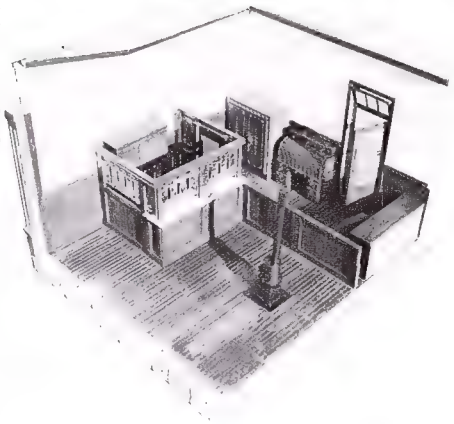

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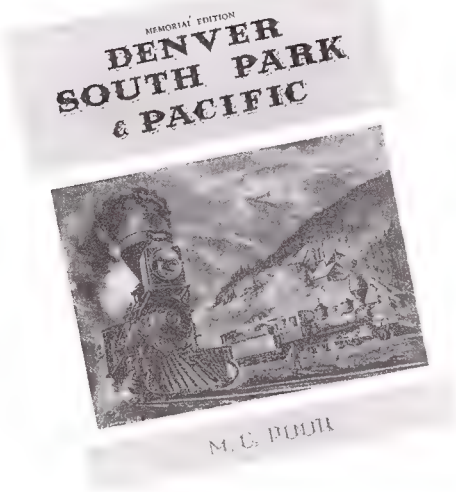

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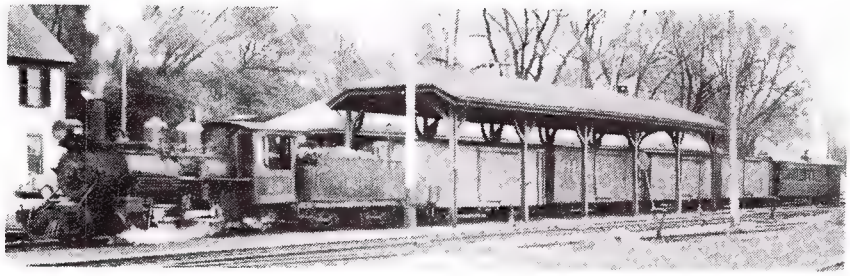

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DP-77	On3 D&RGW Derrick OP	coming

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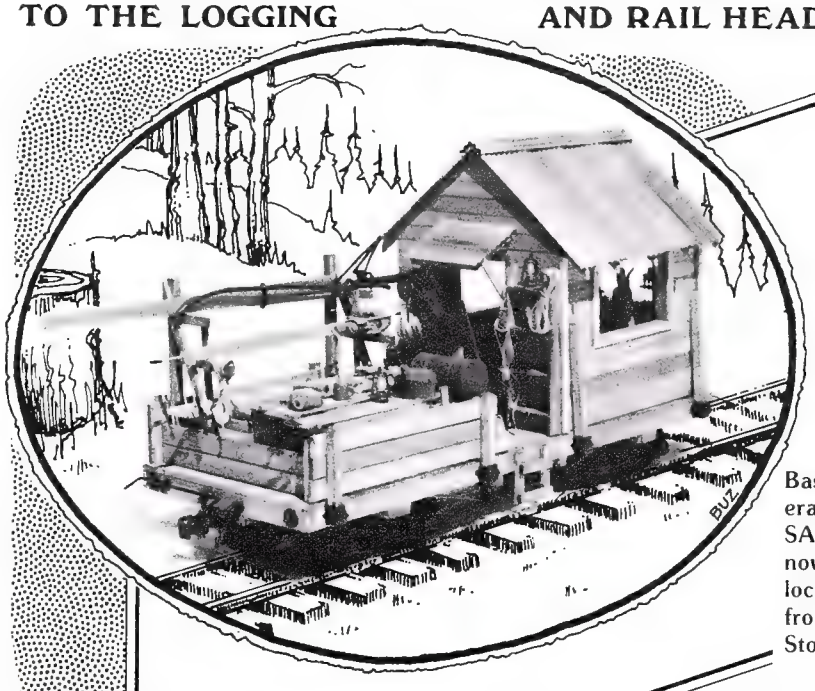

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PACIFIC FAST MAIL ANNOUNCES TWO NEW REPRINTS . . .
THE 1919 SHAY CATALOG AND THE 1921 SHAY REPAIR PARTS CATALOG.

A must for Shay fans the 1919 Catalog features 28 pages of specifications and photos of the various Shays Lima offered in 1919. The 1921 Repair Parts Catalog contains 52 pages of all the parts a Shay owner needed to keep his locomotive in topnotch condition. Both books are 8-½ x 11, soft cover and reproduced from originals in PFM's library. $12.50 available in set only.

G

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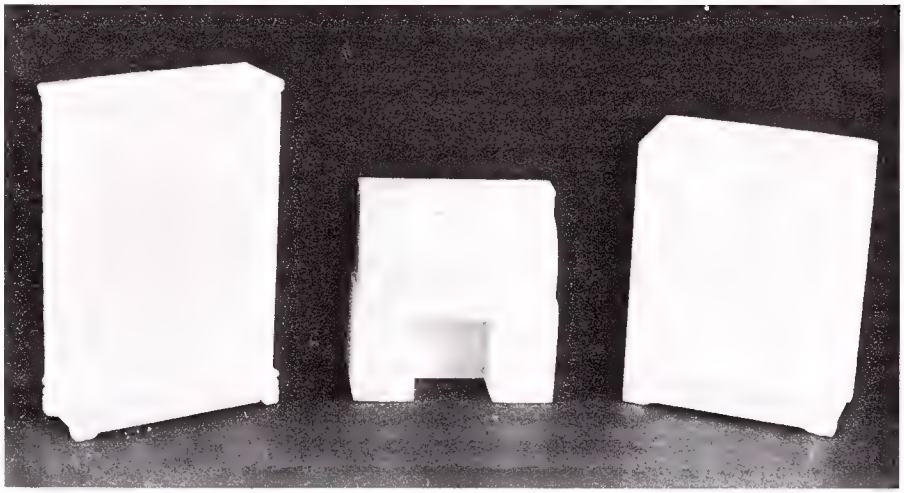
NEW in REVIEW



Rubbles Depot
Thomas A. Yorke, Ent.
P.O. Box 65
Sunland, CA 91040

This is a beautiful kit. Tom Yorke has taken the Sandy River's Marbles depot and modified it into what he calls his Rubbles depot. The kit consists of sharp well detailed plaster castings, Grandt Line doors, windows, station platform baggage wagon, stove, and signal. The tower is cast in two pieces and is filled with a foam which can be cleaned out with acetone. The rock detail on these wall castings is fantastic. The station base includes the wooden platform, steps, and stones. You merely insert the sides into grooves and glue the building together. The wood is by Kappler, and the roof is corrugated. A full sheet of detailed painting and coloring instructions is provided as are full sized plans, a color photo and a complete set of instructions. You can't miss creating an outstanding model with this kit. It sells for $49.95 in O scale and $34.95 in HO.

Yorke also has a new line of detail parts available. He is bringing out a closed roll-top desk, a large wall cabinet, a large office safe, and a low and a high counter. He also has a trunk, and two other pieces of luggage available. These parts are all cast in plaster and are beautifully crisp and sharp. The luggage set sells for $1.50. The interior details mentioned sell for $1.00 each and the roll-top desk sells for $1.50. These are ¼ inch Scale Parts.

A new stone store and bank will be coming out around May. Many of these interior details will fit this building. Also scheduled out next year is an On3 model of the West Side Lumber Company #3 tank car with a wooden frame and plaster tank. Watch for it. *Bob Brown.*

EBT On3 Locomotive
Sunset Models
138 W. Campbell Ave.
Saratoga, CA 95008

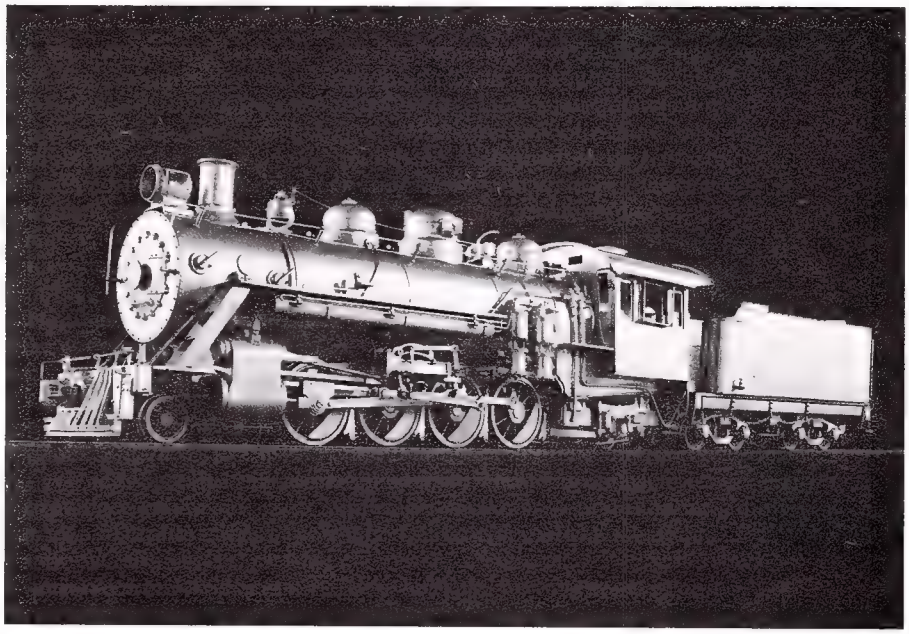
Sunset Models has recently imported an On3 replica of the East Broad Top Railroad and Coal Company #16 Mikado. This model represents the first venture (¼ inch scale) into the world of eastern prototype narrow gauge. Most of the eastern roads have been ignored by the importers and kitmakers. Sunset has decided to take the plunge into a high risk fringe market. Hopefully, sales of this model will lead to new products for non-Rio Grande fans. While the Rio Grande offers much to the modeler, many prefer different equipment, scenery, and operation. Roads such as the EBT offer variety and challenge to those who desire something different.

Well so much for the soapbox. The EBT #16 is a 1916 Baldwin product and weighs in at 160, 500 pounds, only 500 pounds lighter than the heaviest #18. The locomotive was designed for heavy coal service on the road's operation in southern Pennsylvania. Selection of #16 was a good choice since it can be upgraded to resemble #17 or #18 with very little work.

The Sunset model was fabricated and assembled in Korea by Samhongsa. The usual combination of sheet brass, coined parts and Precision Scale lost wax castings has been used in this latest On3 model. Most of the assembly work exhibits good craftsmanship with a few excess-solder joints here and there. The model is well-detailed with nearly all of the visible piping and parts in their proper place. Only a few of the air pipes appear to be routed in variance to photos in my possession. It is difficult to know what is right since details on locomotives change after each major overhaul.

The drive mechanism is a conventional design with power provided by a Canon 26mm can-type and a fabricated brass idler gearbox. The frame is coined brass with coil sprung drivers. The drivers have brass centers and steel tires. The use of steel for driver tires makes a big improvement in traction and appearance over the nickel-plated brass tires used on most imports. The running gear functions smoothly with

Photo by Ron Salwasser



little noise over a full range of prototype speeds. The minimum radius appears to be around 36 inches.

The model has a number of interesting features such as spoked tender, lead, and trailing wheels. The cab is removable which will allow painting of the interior detailing. The front and rear cab doors are hinged. I don't feel that they add much to the quality of the model. I think that the model would look better if they were either fixed open or closed.

The overall impression of the Sunset EBT #16 is good. The importer has managed to capture the feel and spirit of this coal-burning narrow gauge beast. The retail price is approximately $475. *Gene Deimling.*

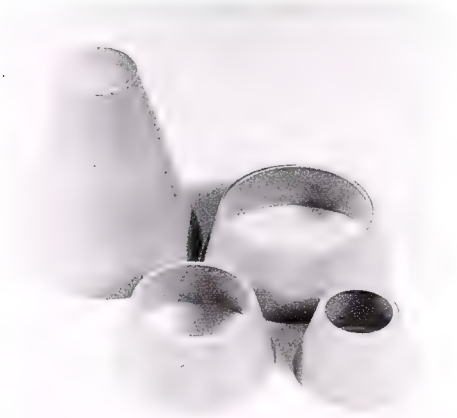
On2 SR&RL #18
Custom NJ Brass
22 West Nicholai St.,
Hicksville, NY 11801

The prototype for the SR&RL #18 was originally Sandy River #7. It was renumbered after the Franklin County consolidation. After the Maine Central took over the line in 1912-1913 the original 2-6-0 was rebuilt at the Maine Central Waterville shops into a 2-6-2 in late 1915. It returned to Phillips in January of 1916. The NJ model represents the locomotive in the later years of the SR&RL.

The model was built in Korea. It is composed of brass sheet, turnings, coinings and lost wax castings. The workmanship on my sample was clean and well done. My whistle came off but there was no sloppy soldering or assembly on my sample model. The model is powered with a can motor and drives through a standard worm and gear box with a rubber tube motor connection. Right out of the box my locomotive ran smoothly, slowly, and with good throttle response. I do not plan to modify the power mechanism at all.

There are some operational problems with the model. The minimum radius on my Phillips scene is 38 inches. The locomotive as it comes from the box will not take that radius because the trailing truck wheel shorts because of limited swing. Peter Barney of the Sandy River Car Shops modified his trailing truck so the whole unit swings under the cab. I am replacing the draw bar pin on my locomotive with a thinner screw so as to clear my trailing truck wheel. Others have replaced the wheel with a plastic wheel or in one case left the wheel out. I also had to cut away some of the frame so the lead truck would swing without shorting. The model also lacks a valve gear/cross head yoke. A Kemtron C-16 yoke will fit in place of the missing one (part #3074). The ashpan is missing on the #18 which leaves an open space above the trailing truck. The sand dome is six inches too tall and the sand lines on #18 are really for #16. Number 18 has only one line not two. The prototype #18 has metal grid running boards while the model has wood grained boards. The boiler deck braces could be replaced with Kemtron C-16 braces (#3045) since they are bent wire on the import. I want to thank Peter Barney for his information on this locomotive. I hope to publish more material on modifications to this model in the near future. Several modelers have already submitted photos and notes on their work on #18. #16 should be available by the time this review makes it into print.

I am pleased with this model. It is well made and runs smoothly. If the prototype problems bother you they can be corrected. The price of the model will vary depending on where you buy yours but I have seen prices of $325.00. This is a welcome relief in these days of $800.00 to $1000.00 imports. I hope NJ continues to provide the On2 modeler with more locomotives for his roster. I have used the NJ photo for this review since my #18 is in pieces on my work bench while I am modifying my trailing truck and adding sound. *Bob Brown.*



HO Sawdust Burner
Evergreen Hill Designs
P.O. Box 633
Los Molinas, CA 96055

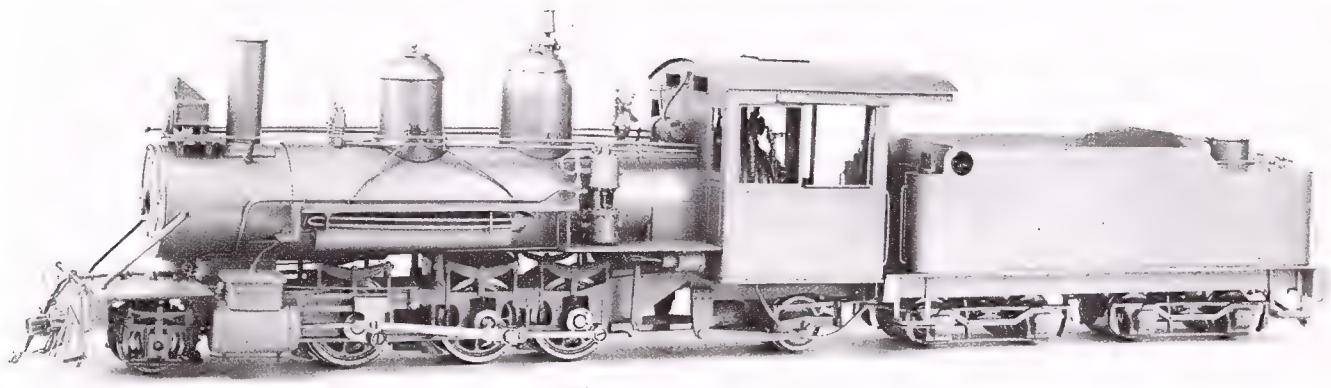
One of the most essential, yet most difficult to build, parts of a sawmill is the conical sawmill burner. Looking like an inverted ice cream cone, these burners disposed of sawdust most efficiently in the days before that material became useful for pressboard and artificial logs.

The E.H.D. kit is really ingenious and simple. A plastic (yes, plastic!) cone is assembled by stacking sections, scribed to represent the metal sheeting used on the prototype. A plastic "screen" casting tops off the cone. A simple conveyor is constructed of wood with white metal rollers and machinery. Magnetic recording tape is used for the conveyor belt, and even a packet of sawdust is included.

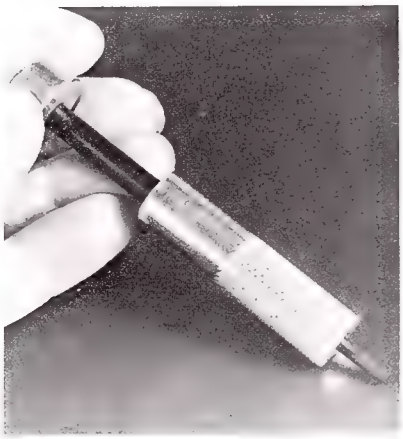
Assembly is simple – the hardest part is painting the cone. A good air brush and a coat of grimy black is a start. This might be a good place to try the weathered rusty metal effects of Messrs. Nash and Greenberg of the Scale Model Weathering Company.

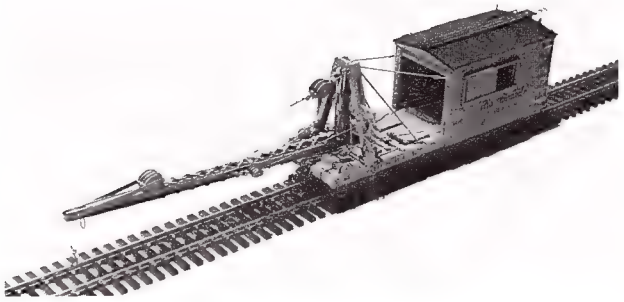
That and a sawmill should finish this kit nicely. One last point. Do *not* spread sawdust around. Fire conscious sawyers always kept the grounds clear of slash.

Nicely detailed, E.H.D.-503 retails for $19.95. *Charlie Getz.*



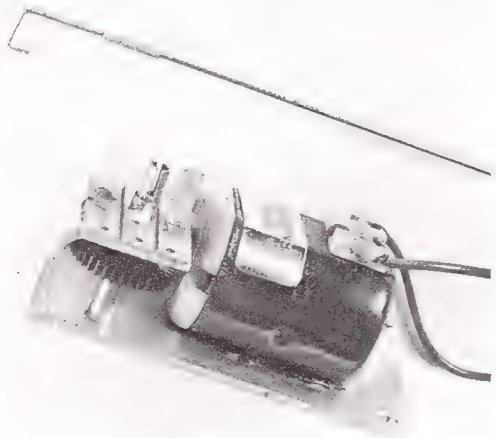
Laying spikes by hand can be a real hassle. Model Masters, 25352 Maximus St., Mission Viego, California 92675 has taken much of the hassle out with their new track spiker. The spiker sells for $9.95 and consists of a well made plunger like tool. You merely have to spread out the spikes on a flat surface and pick each spike up with the magnetized head of the spiker. Then twist the head of the tool so the head of the spike can be drawn up into the end of the spiker, locate the spike point on the tie and plunge the end of the spiker down which pushes the spike home into the tie. Then pick up the next spike and so on. I found this tool easy to use and well made. *RWB.*

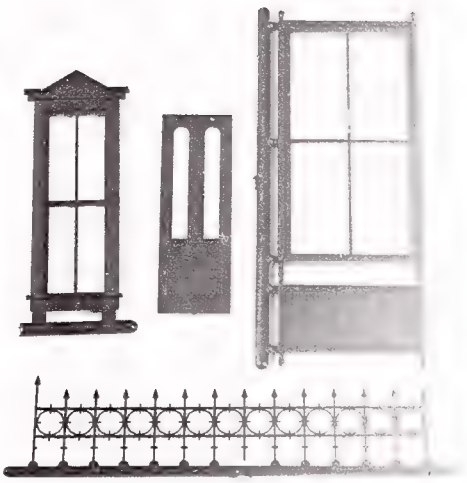




Rio Grande Models, Box 4463, Santa Clara, California 95054 has released their new HOn3 D&RGW derrick OP. This is a beautiful little car. The kit is composed of individual strips of wood for the flat car body and bracing. The cabin is made up of scribed wood which is cut to size and die cut for the various openings. The wood is by Kappler. The boom supports, pulleys, body bolsters and truss rod beams are white metal castings. Brake details are in black styrene. The trucks are fully detailed and assembled Grandt Line products. The X bracing for the boom is a photo-engraved brass etching which will save you a lot of time. Two pages of instructions and exploded drawings, plus a set of Thin Film decals complete this excellent kit. The model sells for $32.95 until January 1st. The price then goes up to $37.95. A companion idler flat car kit is available for $12.95. Don't miss this one. *RWB.*

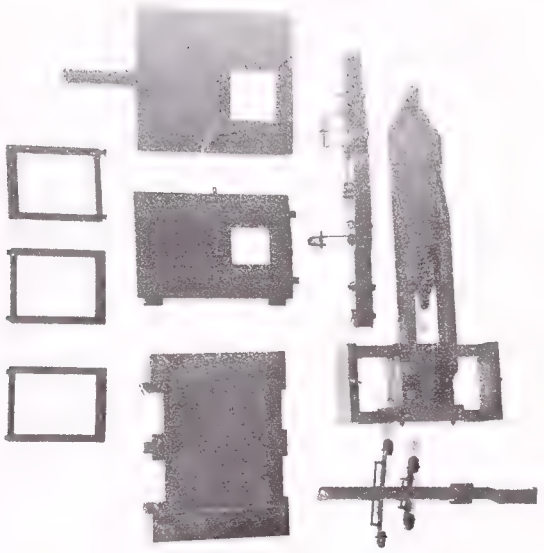
Throwing a pair of turnout points slowly has always been a problem. Most electric switch machines throw with a "thwack" that shatters your ears and batters your switch points. Railway Engineering, P.O. Box 421, Garden Grove, CA 92640 has a new slow motion switch motor available which complements their fine line of turnouts. This motor comes assembled and mounted on a bracket. The motor drives a worm and gear. There is a hollow shaft running through the gear. To install the switch machine you merely drill a 1/16 inch hole ¼ inch from the throw rod in your base board and drop a pre-bent wire down through the hole and through the switch machine. You then bend the wire so it goes through a slot in the switch machine and connect it up. You need two push buttons, a pair of diodes, and a 6 volt AC tranformer to run the machine. The sample I saw was both powerful and quiet. The unit sells for $4.95 as an introductory price and $6.95 in the future. I am not sure if the introductory price is still in effect. *RWB.*





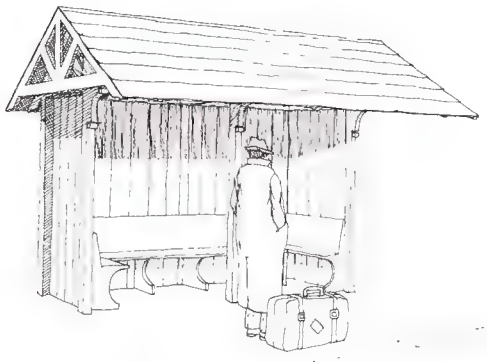
If you have ever wanted to get some of the beautiful detailed window, door and detail castings found in ¼ inch scale Chooch building kits now is your chance. The Gould Company, P.O. Box 463, Verdugo City, CA 91046 has many of these parts available separately. I have 13 sets available for review. These parts were made by Gould for Chooch. Examples of what is available include the following: a pair of Victorian pointed windows at $1.25; four square porch posts at $1.25; a complete 45 degree stair case set at $2.00; a single commercial door for $1.25; double round top commercial doors at $1.50; a widow's walk iron railing at $2.00 for four strips; electric meters at $1.25 a pair; plus a large selection of windows and other doors. These are excellent parts from a fine craftsman. *RWB.*

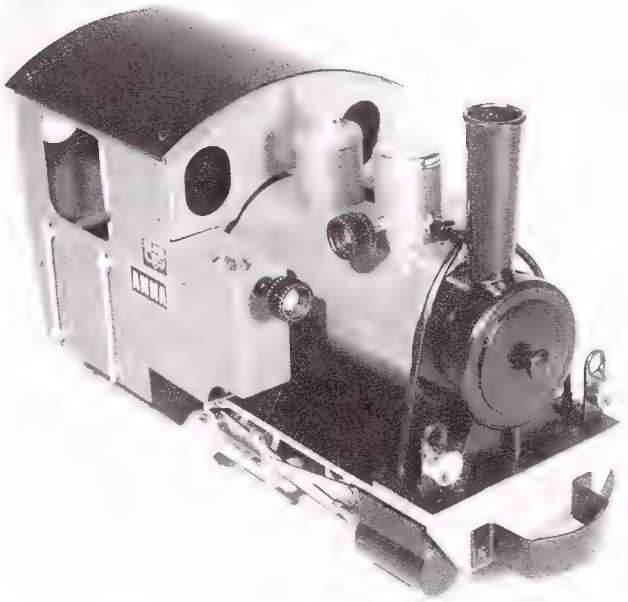
Precision Scale Co., Inc., 1120 Gum Ave., Woodland, CA 95695 has a new line of plastic detail parts available in both O scale and HO. These parts are all high quality black styrene injection mouldings. I have 23 different O scale parts in hand and 25 different HO scale part sets. Some of the O scale parts are : D&RGW passenger draft gear sets with couplers at $4.00 a pair; air hose sets with gladhands at $1.25 for six; grab-irons at $1.00 for 12; 6500 series D&RGW flat car coupler pockets at $1.00 per pair; boxcar brake gear hardware at $1.00 for four pieces; box car door hardware at $1.00 per set; a D&RGW plastic dog house kit as used on the K-27 for $5.95; D&RGW working coach-combine windows at $2.50 for 10; Ajax brake wheels and housings and many other parts.
A sample of these parts in HO includes a beautiful Mason Bogie cab suitable for HOn30 or N scale at $2.00; narrow gauge flat car coupler pockets at $1.00 per pair; air hoses at $1.25 for six; large and small plastic pantograph insulators for $2.00 per 8; several brake beams for HO locomotives and a large number of diesel parts complete the samples sent for review. Write to Precision for a complete list of these excellent parts. *RWB.*



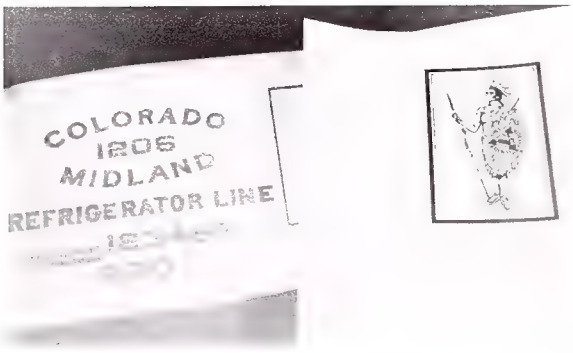
The Sidestreet Bannerworks, P.O. Box 17473, Denver, Colorado 80217 is offering a new imported ready-to-run steam locomotive designed to run on LGB track. The model is made in Germany and sells for $580.00. They are also developing a line of plans for typical railroad structures in 17/32 inch scale suitable for the LGB size railroad. The first of these sets is shown in the sketch. It is for a typical passenger shelter. The set consists of five 8½ x 11 inch sheets. Included are one plan, two elevations, one section and one perspective sketch. The sets sell for $6.00. They are of course usable in any scale. *RWB.*

Passenger Shelter





Perles Pacific Products, P.O. Box 11466, San Francisco, CA 94101 has their new O scale Colorado Midland Hanrahan refrigerator decals available. This is the set with the unusual and beautifully colored Ute Chief picture. The set consists of all the lettering to do one car plus complete installation instructions and coloring data. The main lettering is black, shaded red. The Ute Indian Chief is a four color decal with perfect register and bright colors. This set makes it possible to build one of these interesting, unusual and colorful freight cars for the standard gauge model builder. Perles has updated catalog sheets available for their extensive line of lettering sets. Just send a long SSAE and indicate which gauge and scale you are interested in. *RWB.*



The Narrow Gauge SCENE

by Charlie Getz

A new year and a new decade are upon us and I wish you the very best of everything for the coming year.

A few of our readers have started the year nicely by winning the joint **MDC-GAZETTE** locobashing contest. Our entries ranged from the superb to the – er – "bashed", but it was amazing how versatile these kits can be and how imaginative and talented our readers are. Actually, the latter point isn't such a surprise – we've always known that. But the diversity of entries certainly was interesting – as you will see in upcoming issues. Beyer-Garratts to 30 inch gauge Mexican to a Sandy River articulated in Sn2, camel backs (Yes, Virginia, there *was* a real narrow gauge camel back), and a spate of C-25's, K-27's, and even a K-28! The difficulty of judging can be gauged from the tie for first place. Congratulations to all of you who tried and especially those who placed. You can be proud.

A few months ago the **GAZETTE** staff had the pleasure of attending a narrow gauge meet at Charlie Trombley's in the San Francisco Bay Area. Lots of good friends and lots of good news. For example?

Our good friends at Precision Scale Models have a lot of new goodies coming. In On3, the C-19's are still on schedule for 1980, including D&RGW #340, 345 (would look great with a beartrap stack!), RGS 40 and 41. Also planned is 2-6-0 C&S #9, and #6, 2-8-0, RGS #42, a C-17, and a C-25. Kit fans in On3 can look forward to K-36 and C-19 kits, as well as a series of static railcar kits, such as Silverton Northern's Casey Jones, a Model "T", and Westminister Iron Works Fordson Tractor switcher. Look for a Mack railbus from Katsumi (KTM) too. By the way, the Casey Jones kit and the C&S engines are also available in HOn3.

Logging fans have always been provided with a variety of geared engines by Precision, and they can now add the Santa Barbara Shay to that list. Short-line and rail-engine fans might be interested in the Clover Valley #4, Baldwin & Hammond Lumber Co. #6 or South West Lumber Co. Mills #12, all saddle-tank 2-6-6-2's in O.

HO modelers can expect a Mich-Cal Shay kit and the K-28 kit will be available in the future. I was greatly impressed by PSC's new kit approach, to be featured in the SP cab-forward in HO. The driver-frame mechanism, boiler and cab, and tender shell comes pre-assembled. All holes are punched and drilled, and thus the hard part is done. The modeler need only assemble the sub-assemblies and add detail parts. Such an approach should remove 90 percent of the "fear" of an engine kit – the mechanism, and leave the fun part to the modeler – at a reduced cost. We'll review this approach soon.

More is coming! PSC has passenger cars in On3, including D&RGW vestibule coach #319 and open platform coach #312. Coming up are baggage-mail cars #60 and #62. Look also for hoppers – an EBT in On3 (R-T-R and kit), and an ACF 70-ton in O. Parts in HO and O keep popping out too. PSC offers a plastic Mason-Bogie cab casting set in HOn3 with obvious HOn 30 inch overtones as well as many other plastic parts. PSC offers some super detail kits for locomotives as well. I'd suggest that you see your dealer for complete information or PSC for a parts list.

Finally saw the new HOn3 Key Colorado and Southern B-4E 2-8-0 #71. Haven't had a chance to run it, but it does look nice, what with those crazy air tanks on the boiler.

The Crossing Gate, 6468 Moraga Ave., Oakland, CA 94611, recently displayed their new passenger cars in styrene. *Super* looking On3 D&RGW rolling stock, down to the sheen of the varnish. Styrene seems a perfect medium for modeling such well-maintained equipment, and these kits will include a vacu-formed roof! Next up from Crossing Gate is a 30 foot boxcar. Their schedule is pretty ambitious, and I am assured of a long line of new On3 car kits.

The Backshop's On3 Gramps frameless tank car kit looks really nice too. This all-brass kit retails at $72.50, to be followed by a narrow-frame tank and a C-16 kit!

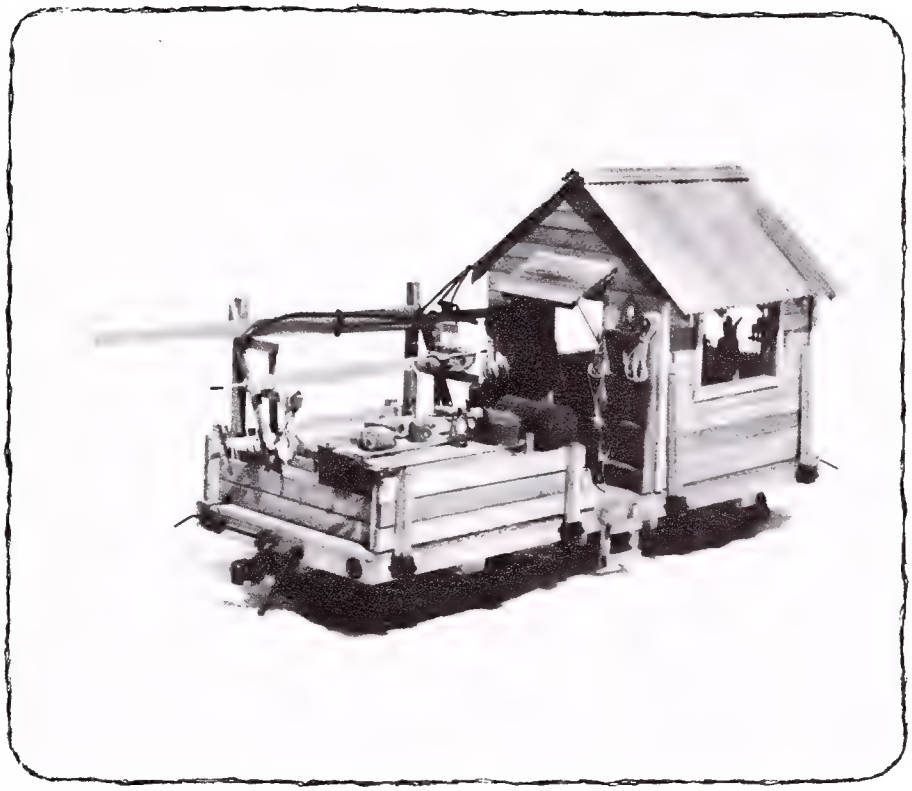
V&T Shops, Box 5597, Washington Station, Reno Nevada 89513, continues to produce fine coach bodies for the original Whistle Stop's kits in On3. Now V&T is offering "derelict" coaches to be used as wayside sheds or stations such as at Vance Junction on the RGS. I was *really* impressed by a new derelict locomotive kit in On3. The cab and boiler are cast of rigid urethane with white metal drivers and detail parts. (I'll bet some talented modeler powers one!) Now you can recreate a rip-track without the expense of a brass model. V&T has some nice detail parts in O scale, including an Acetylene welding set in white metal and stacked journal boxes in urethane. The latter are quite common railroad clutter, yet rarely modeled.

Rio Grande Models' new McGiffert log-loader looks good as you would expect from RGM. Look for it in HO soon and the HOn3 D&RGW derrick "OP". For Sn3 fans, look for a 30-foot 40-foot reefer kit (a la D&RGW), parts for derrick "OP", and a tender wrapper correct for C-16 #271, so the PFM-Tomalco #223 can be converted. HO fans can expect a Sierra Rwy side dump gon.

Durango Press' new Derrick "OP" may be just the first in a series of On3 maintenance of way equipment. Tentative plans include production of a Marion steam shovel and D&RGW spreader OV. Other rolling stock plans include a limited run On3 West Side Lumber Company tank car #2, and a D&RGW long caboose in On3. A small run of RGS Rotary #2 in HOn3 will be produced. A line of HOn3 tank cars will be offered including frameless tank, narrow-frame, Conoco, and Rotary OM water cars. These will be released throughout 1980. And yes, finally, the interior for Rotary RGS #2 (On3) is coming. Durango Press is considering a new line of On2 car kits on a limited run basis. If you are interested make sure you drop them a line.

The Original Whistle Stop's newest car kit – the Tool and Saw car is really a beaut. Lots of atmosphere as the picture shows. While not based on any prototype, this car is typical of logging line "homemade" equipment.

In the news, **GAZETTE** author and



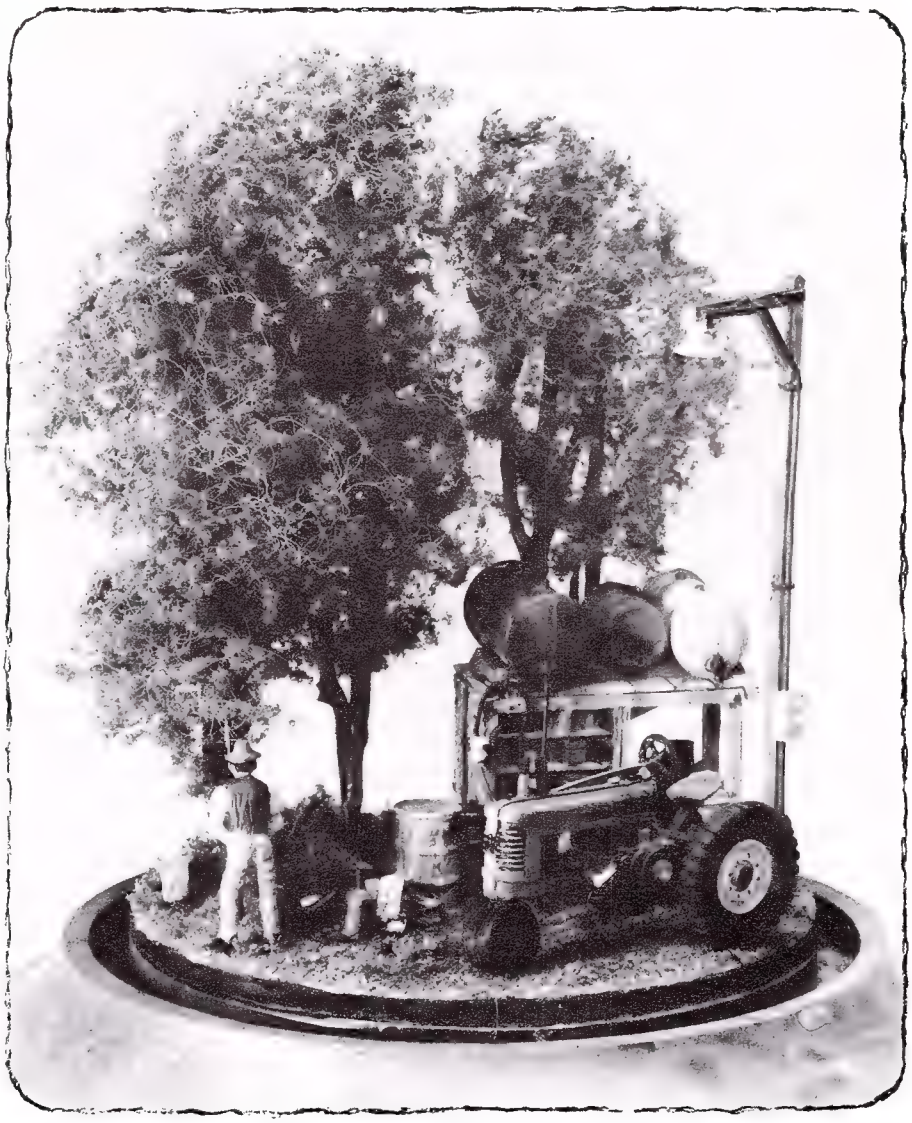
craftsman Kelly Morris is now offering a custom-building service handling anything from kit assembly, painting, sound installation and super detailing to dioramas. You'll find Kelley a stone's throw from Durango Press at P.O. Box 112, Lynwood, Washington 98036. Write for details – you can't go wrong.

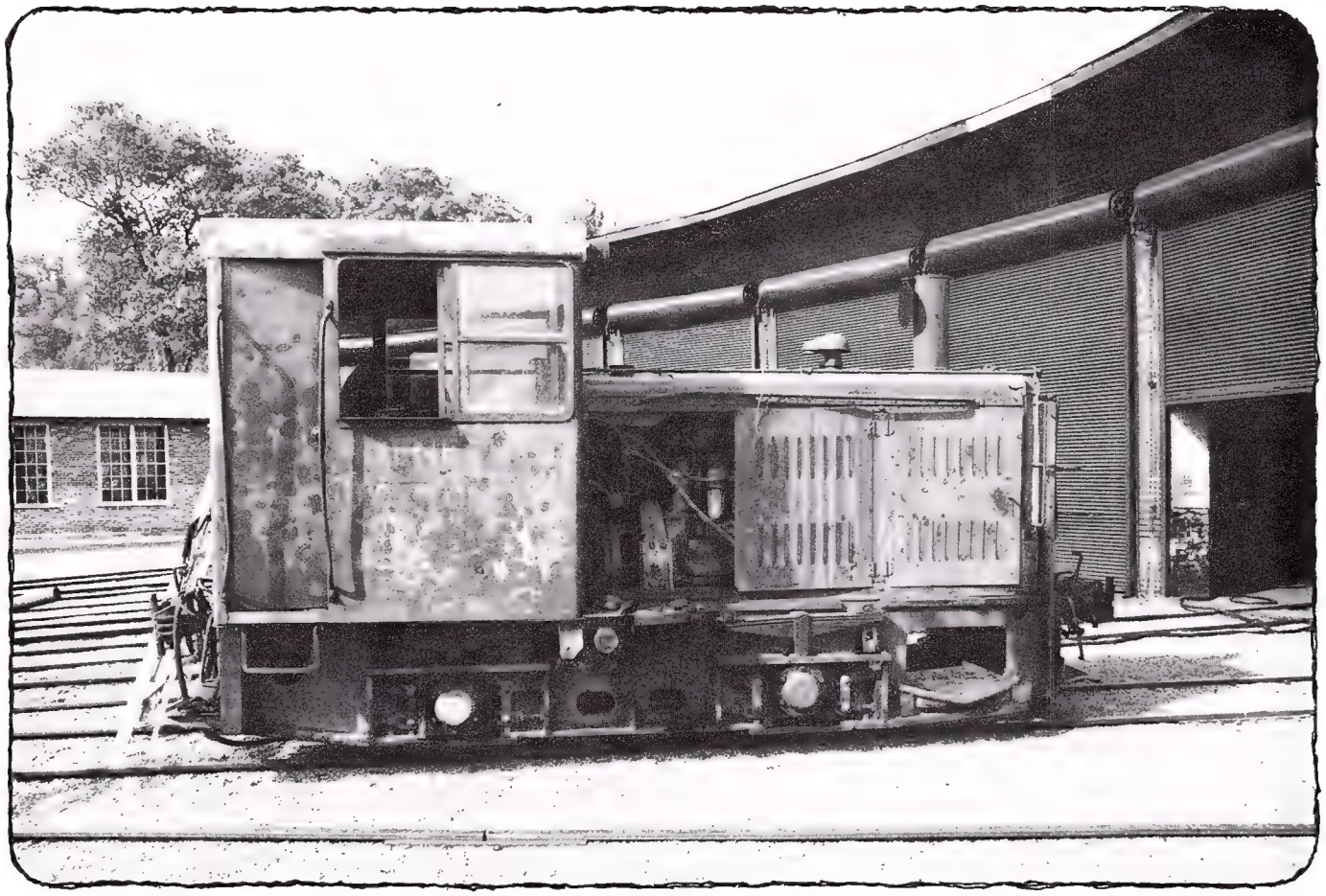
O-W-S Marketing, 4220-A Roseville Road, Sacramento, CA 95660, has assumed the marketing and inventory work for Kemtron. They are doing the same for Evergreen Hill Designs, and *may* be producing the Classic Miniatures line of structures. O-W-S has an ambitious program planned to offer inventory, publicity, and marketing services to small manufacturers so as to free them for production and product development. Write O-W-S for details. By the way, they hope to re-release a number of old Kemtron parts unavailable for years. New parts in styrene are being released daily. Best of luck to all the fine folk at O-W-S.

In our abbreviated Products-of-Interest Department, the Scale Weathering Company, Box 1310, Pacifica, California 94044, offers new roof paper and tarpaper realistically colored and pre-weathered in black, red and green. Six 3 inch by 6 inch sheets ready to use for HO, S, or O; watch their ads. Scale rust to follow? . . . Detail Associates, Box 197, Santa Maria, CA 93456, has a new steam locomotive detail set in O scale available. This set includes a screw jack, re-rail frog, water bag, long oil can, tallow pot and two heavy wrenches . . The newest from Woodland Scenics are mini-scene kits, like the one illustrated. Not only is the foliage included, but also detail castings to create a small diorama. No, I do *not* know what the fellows in the picture is doing . . . Durango Press has a new "twin stores" kit in HO, a general store with gas pumps. Their new acetylene tank kit features eleven castings. Detailed even for "O". Wheel Works' next truck will be a ¼ inch logging crane truck, which loads logs onto log trucks. Log-ical. (Ouch . . .)

Rio Grande Models has new parts coming, including shop trucks in HO-HOn3 and Sn3. These are oversize dollies upon which engine frames rest when the drivers are removed. A nice touch for the backshop as is the new HO pallet for a freight dock. Those of you who have scratch-built this necessary detail item can attest to this. Also new – a power pole and transformer, stationary steam engine and locomotive hoist . . . Doug Macleod, 22 Ivy Drive, Orinda CA 94563, has some nicely done styrene parts available in "O" scale, including SP #467 combine-baggage side and end doors (On3) and SR&RL On2 doors for caboose #556. A 48-diameter-pitch, 12-tooth gear is also offered, cast on a shaft for mechanism work.

Chooch's new detail parts look *superb!* The detail of those brass – white metal – or plastic parts in O is superb and should





be a great boon to modelers. The list is staggering, making Chooch perhaps the SS Ltd. of O scale for detail parts and quality. I especially liked the air compressor, cash register, and oil burner with brass siphon. Judging from these parts alone, the new gas station should do everything but pump ethyl. (Sounds remotely obscene . . .)

Evergreen Hill Designs also has some super new detail parts in both HO and O. I've seen samples and will defer to a later review. New structures include Nevada County Railroad Supply shed – a nifty little structure with platform and gantry crane, EHD-208 at $39.95. The die-cut version of Dollar Bros. in HO is also available at $39.95, EHD-207 . . . Yorke's new "tanks" are so versatile that I'll bet you could use a zillion of them. They look good for gasoline storage in HO, or water in O, or as part of MW cars in either scale. Offered in three different sizes, these plaster castings are truly multi-scale. Write Yorke for an idea sheet-flyer with prices. Also new from Yorke is a cut stone and brick bank, at $44.95 with interior! This O scale kit is limited to 150 kits. In May, we are promised a super kit in HO-O. *Two* structures are included, one of which is a stone two-story job with balcony. More details later . . .

Railway Engineering, P.O. Box 421, Garden Grove, California, has new impressive switch machine on the market. It is claimed that installation is extremely easy without fussy adjustments. The operation is sure and fast, using a motor and screw to throw the switch points firmly. If installation is that easy, then a giant leap has been made in track work. We'll report back. Railway Engineering also offers a full line of quality switches and ties. They also are selling their 20 percent copper solder due to popular request . . . Speaking of track, don't forget that new Top Track line by Precision. This is the elevated and widened HO flex-track mentioned a few issues back. Matching straight flex-track in HO and On3, codes 100-83-70 are also offered . . . NSWL is producing a new replacement worm-nylon gear set for the PFM K-27 in On3. Some modelers have experienced stripping of the gears with the stock set . . .

Our friends at PBL, P.O. Box 749, Chama, NM 87520, offer modifications of the original PFM sound system which can update it nicely. For $199.50 you get your unit updated with improved throttle, single-chime whistle, improved chuff, *and* a tape-loop system for bell, and pump, blower and generator sounds. We've heard it and it sounds great. Write PBL for details.

In the "Narrow Gauge Notes" Department, Dave Johnson sends along a photo of the EBT diesel. Perfect for you HO 30 inch fans! Try to duplicate that weathering!

In the Help Department, Glenn Joeston, Box 12, Marina CA 93933, needs information on D&RGW K-36 boilers, especially #487. Some appear straight – others have almost a wagon-top look. Any information to Glenn would be appreciated, as would a copy to me.

In the "It's Only a Rumor But You Heard It Here First" Department, one well-known manufacturer may produce a C-16 type engine kit in On3 with a can motor for under $100.00! Who said miracles can't happen?

Well, that's all from here. Keep modeling, keep reading and keep writing. Your letters (and SSAE) always appreciated. Please don't include subscription problems when you write me – drives Irene crazy! See you next issue.

Charlie

Charlie Getz
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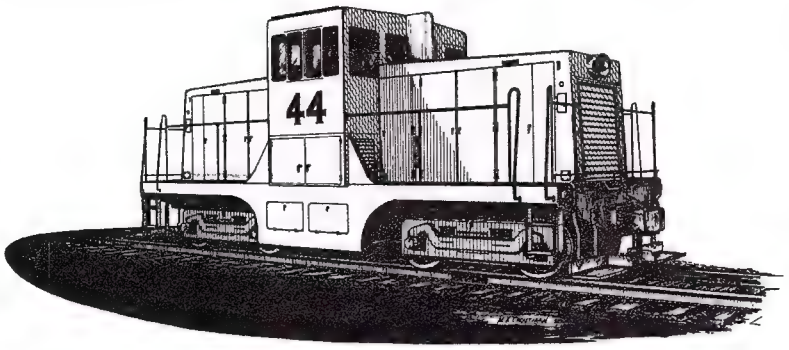

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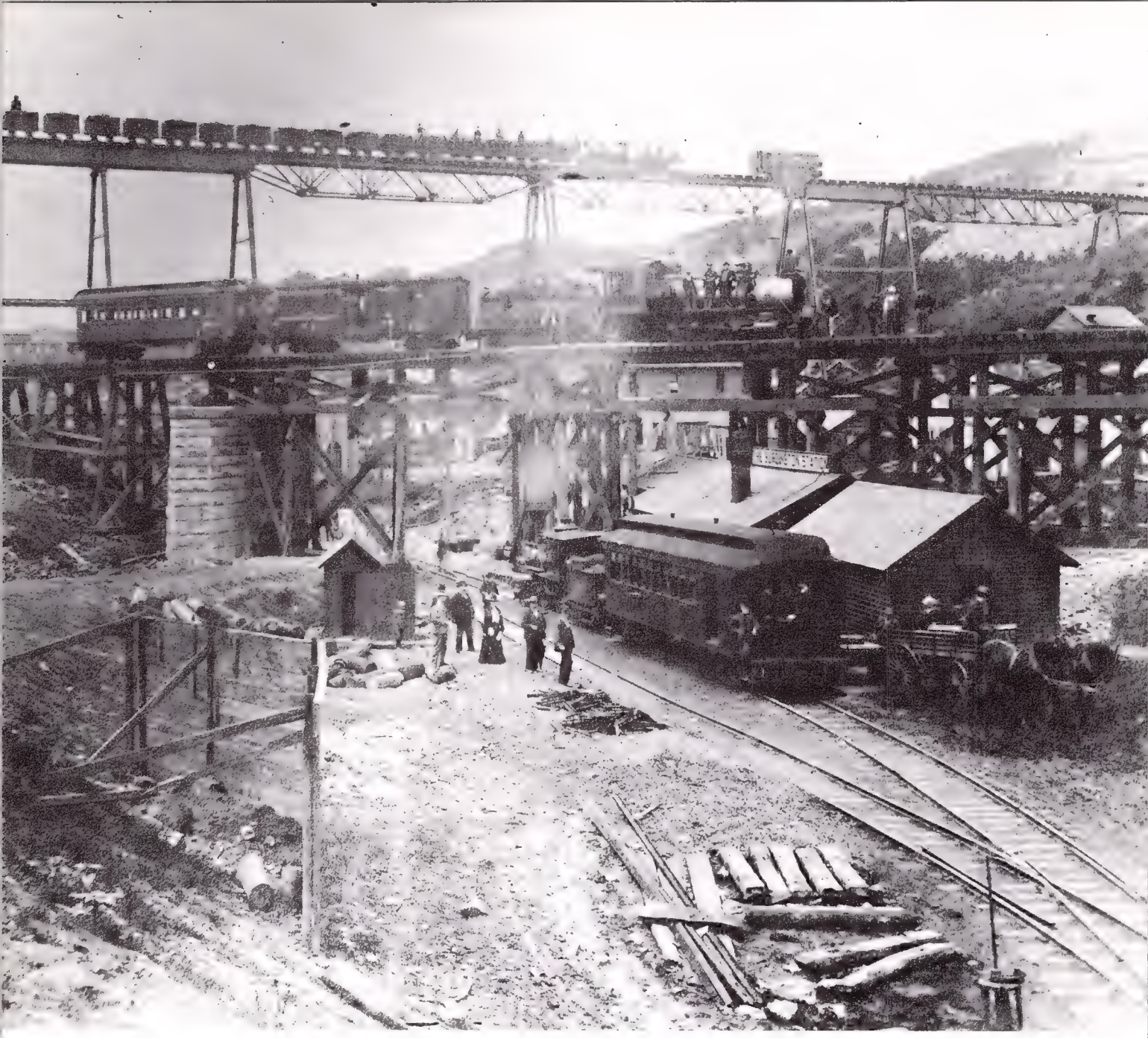


Probably the most famous scene of Black Hills railroading showing the three levels of narrow gauge trackage in Lead. Deadwood Central Porter 2-6-0 #497 is waiting with her combine at the Burlington Station at the lower right. Above the station FE & MVy RR 4-8-0 #209 is posed with a baggage car and coach. Both trains are three foot gauge. High above on a steel span is a Homestake Mining Company ore train pulled by the J. B. Haggin, a 22 inch gauge Baldwin 0-4-0T. Just ahead on the bridge is a compressed air locomotive. *Photo from the author's collection.*

C&NW NARROW GAUGE IN THE BLACK HILLS

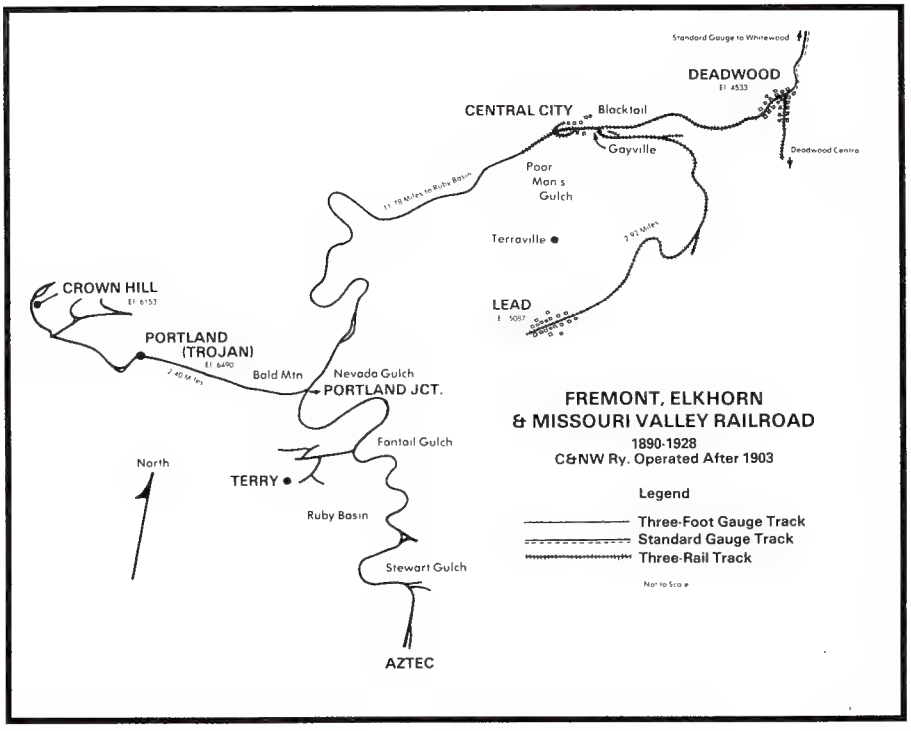
Part 1 – THE LINE

by Scott Zieske

In 1876 an expedition led by General George Custer discovered gold in a small mountain range known to the Sioux as "Pahasapa" . . . the Black Hills. Word of the discovery flashed throughout the mining camps of the west and soon an army of placer miners filled every gulch. Boom towns such as the infamous Deadwood flourished. After the creeks were panned out, hardrock mining began in earnest. The fast-growing population soon needed reliable transportation connections to the outside world as well as a means by which to ship supplies into and precious gold out of the mining districts. Enter the railroads.

By 1887 the Chicago and Northwestern-controlled Fremont, Elkhorn and Missouri Valley RR had extended its standard gauge rails to Whitewood, Dakota Territory on the northeast edge of the mineral-rich Black Hills. In 1890 the Burlington and Missouri River RR and the FE&MV began a race for the miniature metropolis of Deadwood. The B&MR from Edgemont in the southern hills and the Elkhorn, as the FE&MV was to become called, from Whitewood, 15 miles to the northeast of Deadwood. In December of 1890 the FE&MV steamed into Deadwood from Whitewood via a 1300 ft. tunnel. Already plans were being formulated for a narrow gauge FE&MV division to serve the mines above Deadwood.

When the FE&MV arrived in Deadwood, it wasn't the only railroad in town. Not by a long shot! The Homestake Mining



Engine #1299 is shown leaving the outskirts of Deadwood headed for Central City and Lead with the normal two car passenger train. The water tank on the left served a steam laundry and the building in the background is a church. Note the primitive boulder billboard and the double diamond switchstands. ***Photo from the author's collection courtesy of Dorothy M. Trussell.***

Company's Black hills and Ft. Pierre narrow gauge was the first railroad in the area and served the already huge Homestake operation in Lead. The BH&FP operated to supply the mine with coal and wood and to serve as a connection with the FE&MV standard gauge at Piedmont, South Dakota. Also, in 1888 another narrow gauge line, the Deadwood Central, had connected Deadwood and Lead via Pluma with a line up Gold Run Gulch. This line was eventually controlled by the Burlington and electrified for three-foot gauge trolley use, but that's another story! *(To be told in a future* **GAZETTE** *– Ed.)*

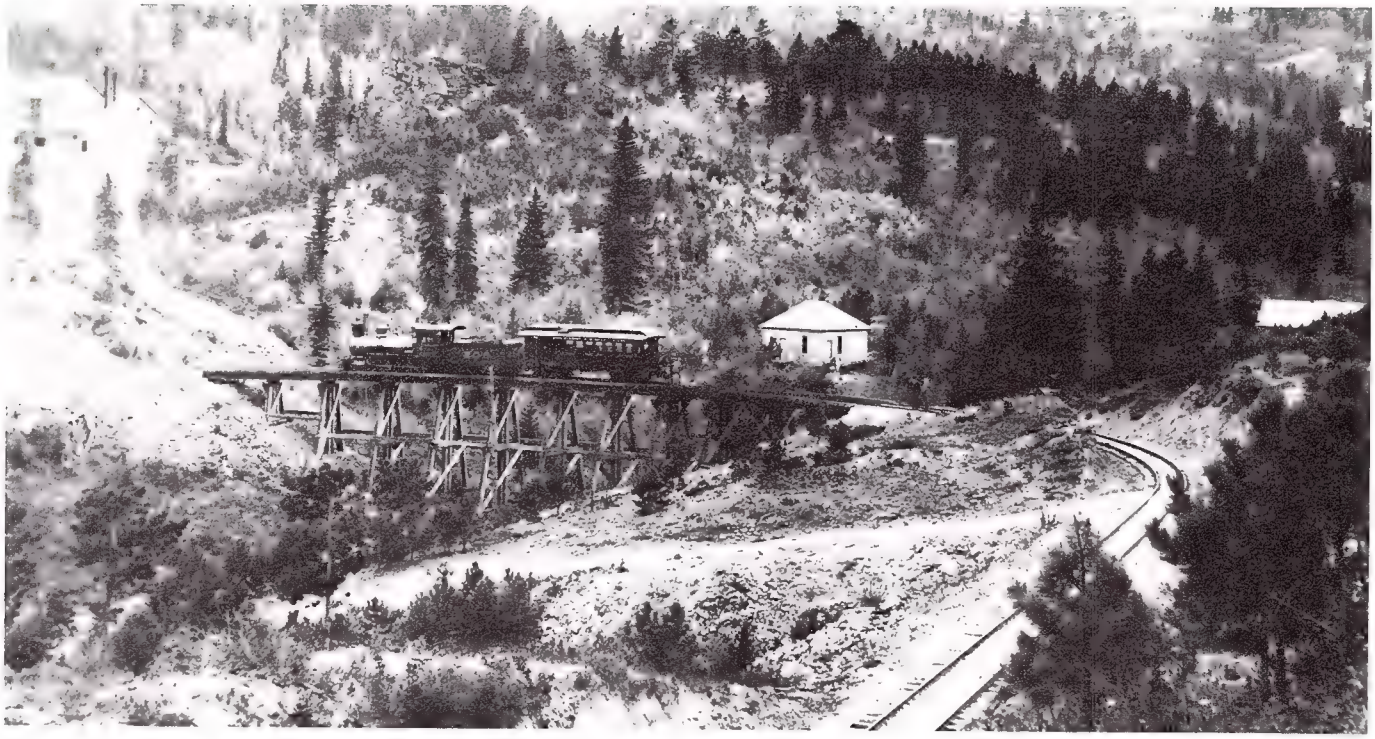
The Elkhorn planned to lay rails to Lead and beyond using another route up Deadwood Gulch to Central City. In 1891 track was completed to the Ruby Basin Mining District and to the Bald Mountain Mining District south and west of Lead. In addition, a yard and depot were established near the Homestake workings in Lead. A total of 18.35 miles of track were laid that year. Residents of the mining communities of Portland (later re-named Trojan) and Terry finally were no longer isolated.

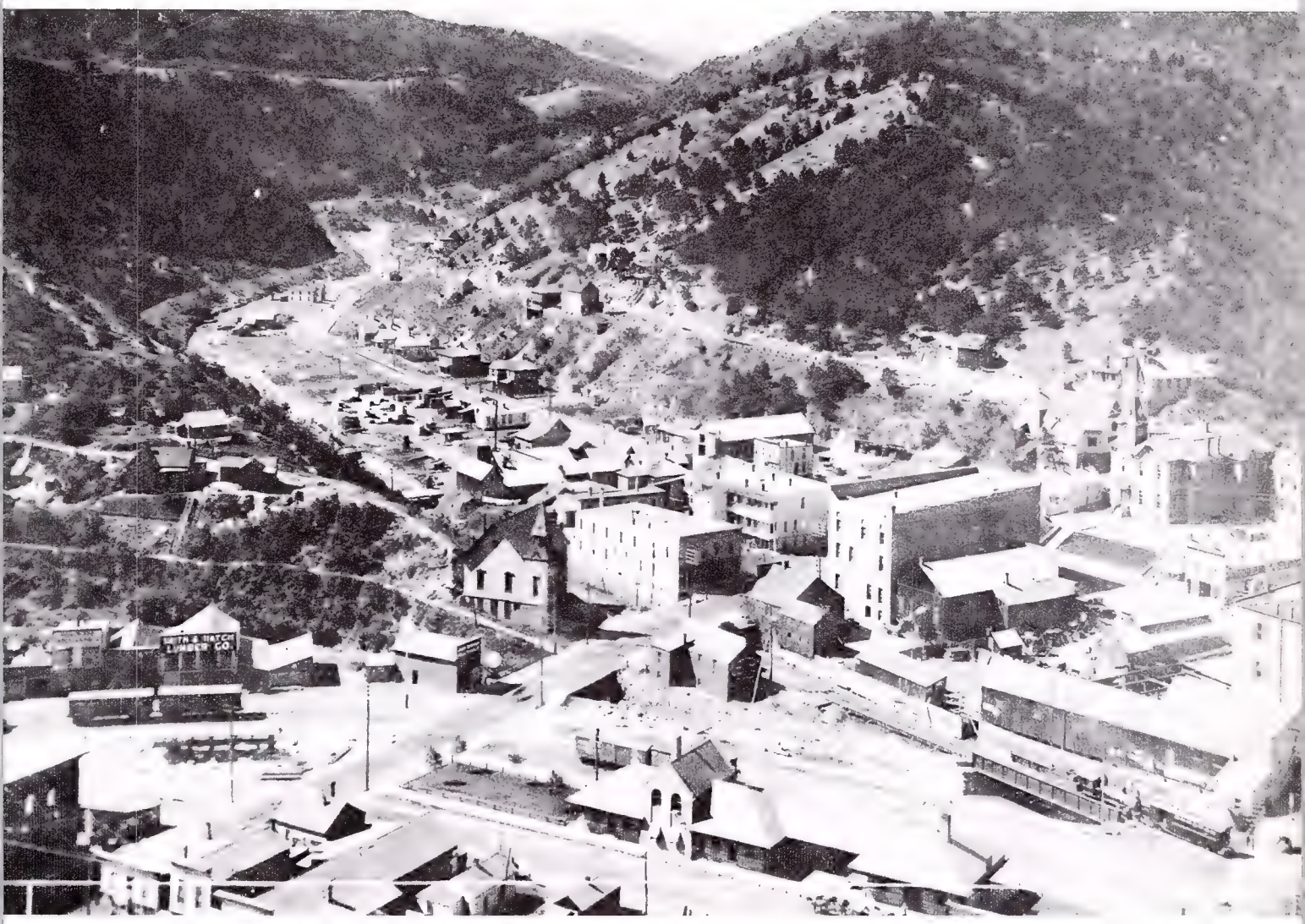
The spurs serving the higher altitude mines were tortuous at best. Grades reached an unbelievable 8.2 percent in spots. Four horseshoe curves (180 degrees or more) and 19 bridges and trestles on the FE&MV mainline attest to the slight misnomer, Black "Hills". These weren't hills at all, but full-fledged mountains.

As late as 1902 the Elkhorn was listed by the C&NW as a leased line, completely independent of the larger carrier. In order to compete more successfully with the Burlington, C&NW's president, Marvin Hughitt, purchased outright the small narrow gauge line in 1903. The tiny road had

Ore cars on the Montezuma and Whizzers mine sidings in 1904. C&NW twelve-wheeler #1298 (re-numbered from #208) is shown with its two passenger train. The engine ran backwards to Lead as there was no provision for turning engines there. Deadwood is hidden in the distance. ***Photo from Black Hills Illustrated, 1904.***

A classic picture of Black Hills narrow gauge railroading. The famous photographer William H. Jackson captured FE&MV 4-8-0 #209 and a combine crossing a curved trestle in Nevada Gulch near the Sunset and Mogel mines. ***Photo from the Terry Ostrom Collection.***





Upper Deadwood is shown in this 1902 view. The FE&MV (C&NW) passenger depot can be seen in the lower center of the photo. Note 4-8-0 #209 and combine crossing the steel bridge at the lower right. The main line to Lead and beyond follows the left side of the gulch. Several Elkhorn box cars can be seen. *Photo from author's collection.*

had its ups and downs. It survived the chaos after the "Silver Panic" of 1893 and the closing of many of the smaller mines which had played out. In fact, business was going well again when the C&NW officially took over in 1903.

Three ore trains operated daily out of Deadwood to serve the high country mines. In addition, hourly passenger service was provided between Deadwood and Lead through Deadwood Gulch, a distance of just under three miles. Like another well known narrow gauge line, the C&NW's three-foot passenger train garnered the nickname, "The Slim Princess". It should be noted that the FE&MV operated over three-rail trackage between Deadwood and Central City and also between Deadwood and Lead. This eliminated the need for expensive interchange operations between the narrow and standard gauge carriers. From Poor Man's Gulch, just past Central City and Golden Gate, the Elkhorn was strictly narrow gauge serving the mines from Ruby Basin to Crown Hill.

Operating at altitudes of between 4500 and close to 7000 feet, the FE&MV fought snow 6 to 7 months out of the year. The crews operated without the aid of rotaries or even snowplows and flangers. During a particularly bad storm in 1916, it took a three-engine snow train and 35 men two days and nights to clear the high line out of Trojan. A few years earlier in 1909 spring floods wiped the rails from alongside Deadwood and Whitewood Creeks. It took weeks to get the trains running again. By and large, however, the C&NW narrow gauge operation was pretty much free of any tragic accidents during its 37 year existence.

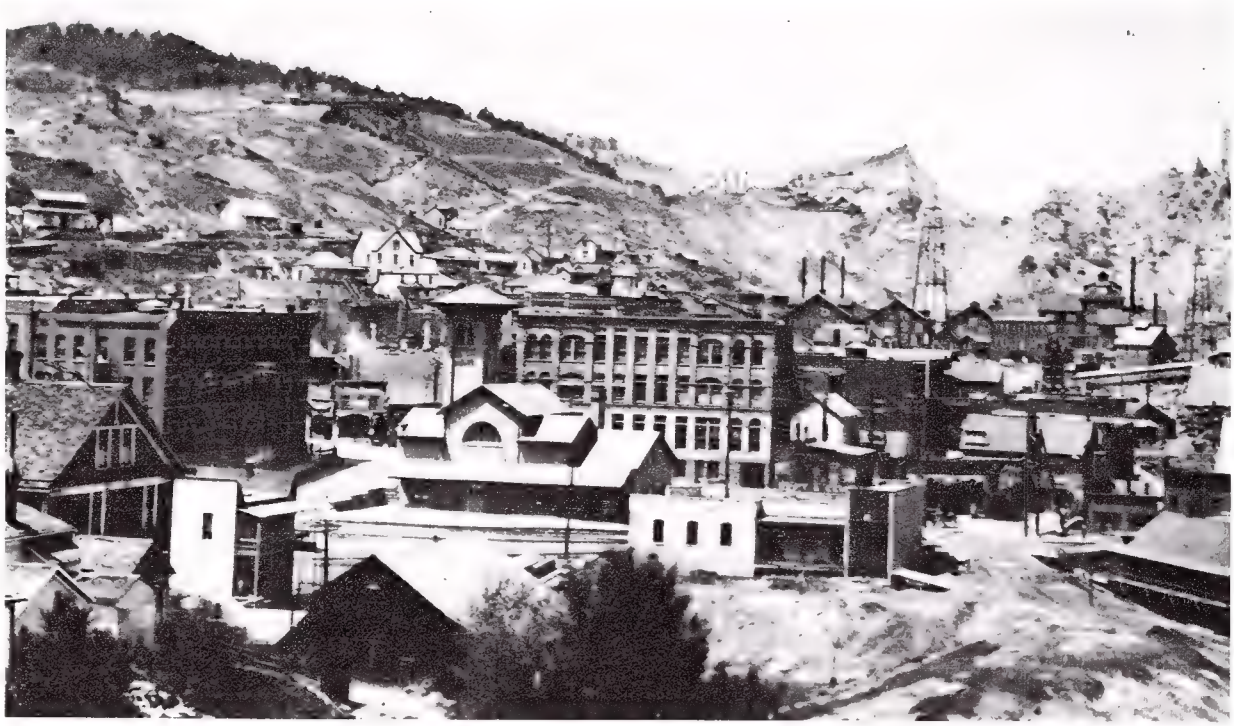
By the early 1920's the inevitable loomed ahead. Ore traffic from the outlying mines was on the decline and the automobile was putting the pinch on the passenger operation. For a few years the railroad struggled on, probably losing money every mile of the way. In April of 1927 the oldest of the unique 4-8-0's, numbers 208 and 209 originally, were scrapped. The handwriting was on the proverbial wall. Passenger service between Deadwood and Lead was also discontinued that year. As in years past, the ore trains ran only when demand warranted they do so. The following year, 1928, operations ceased altogether and the line was torn up and sold for scrap.

Not much has been published on the FE&MV or for that matter on the other lines that once ran in the Black Hills. My bibliography lists all the sources I know of.

Today, unfortunately, little remains in the area to suggest the Elkhorn ever existed. If one knows where to look and what to look for, a few railroad-related structures along the old right-of-way can be spotted. Most prominent of these is the brick C&NW depot in Deadwood. It has been well preserved and now serves as the local fire station and city office building. Most of the grades can still be seen and yield spikes to the hearty hiker-railfan. Several of the mines once served by the FE&MV remain in the high country around Trojan. Headrames and ore tipples still dot the right-of-way and many are still in

A rare photograph showing the FE&MV (C&NW) freight and ticket office in Deadwood about 1902. Note the C&NW crummy on the right of the utilitarian looking structure. ***Photo from the author's collection.***

The C&NW depot in Lead is shown in this photo. Note the large Homestake surface workings in the background. ***Photo from the author's collection.***



This view of Deadwood Gulch between Blacktail and Deadwood was taken on September 28, 1905. Note the Elkhorn (C&NW) train in the foreground. Deadwood can be seen in the distance. ***Photo from the author's collection.***

remarkably good condition. Slowly but surely, however, these remains are crumbling away or being torn down. A warning: many of the mining claims are now owned by Homestake Mining Company and are off limits to potential trespassers.

Modeling possibilities abound with a prototype like the Elkhorn. I am currently working on a conversion (a la Gordon North) of a Tyco 4-8-0 mechanism into an Sn3½ twelve-wheeler. The FE&MV locos hauled a motley assortment of ore cars too. Most were short (20 to 24 feet), outside-braced cars not unlike those used on the Quincy and Torch Lake Railroad in Michigan. An article on the Q&TL cars by Gene Deimling appeared in the very first issue of the **GAZETTE** (out of print – Ed.) The passenger equipment, both coaches and combines, were very standard looking. They appear as though they were built along the lines of other Pullman company cars of the period. Disposition of the rolling stock included transfer of at least two passenger cars (a coach and a combine numbered 2729 and 828 respectively) to the C&NW operated narrow gauge Fennimore to Woodman Branchline in Wisconsin. It is also reputed that the Warren Lamb Lumber Company which operated a three-foot gauge logging line near Rapid City, S.D. received some of the passenger equipment.

I only hope this article along with the associated photographs will stimulate a few readers enough to try modeling at least a portion of this fascinating narrow gauge railroad. I invite anyone with more information on the Black Hills roads to write me at P.O. Box 847, Lead, SD 57754.

Part 2 will be published in the March/April **GAZETTE**. *It will discuss the locomotives and rolling stock of the C&NW and will have a roster of the locomotives.*

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Railroads of the Black Hills – Mildred Fielder. Copyright 1964. Superior Publishing Company, Seattle, Washington. Chapter 4; pages 116-143.

NMRA Bulletin, July, 1972 – Articles by Rick Mugele and Bob Adams. Pages 25-36.

Finelines, September 1974 – C&NW Narrow Gauge by James Nickoll. Pages 6-19.

Map of Ore District of the Northern Black Hills – Lawrence County, South Dakota. Compiled from official and private surveys by Frank S. Peck, U.S. Dep. Min. Surveyor, Deadwood, SD, 1904 (Copyright 1904 – Frank S. Peck).

The response to the **GAZETTE-MDC** *loco bashing contest was really overwhelming. There were so many creative locomotives built that we really had trouble judging. In fact we had to give two first places. Elsewhere in this issue is a list of the other winners. Here are the two first's, two Garratts by Barton A. Cook and David Scruggs respectively.* Ed.

FIRST GAZETTE/MDC

A Freelanced Beyer Garratt

by Barton A. Cook

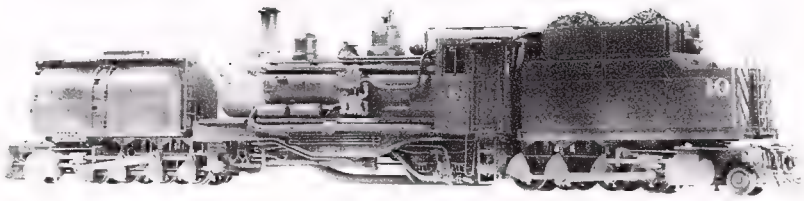
My freelanced Beyer Garratt was built from two MDC Narrow Gauge 2-8-0 Kits.

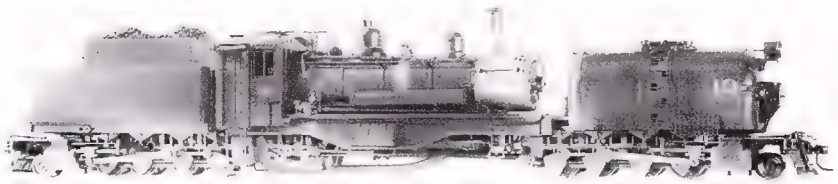
The engine was built around both sets of drivers and is powered by separate motors, mounted backwards in specially built brackets over the cylinders. Since each powered unit is insulated from the other, the frame of one end acts as the hot pickup for the other. The engine utilizes the motors supplied in the kit and they seem to run well together, although it is hard to tell when your total line consists of one piece of narrow gauge flex track.

The forward tank is from a Marklin #4621 high capacity tank car. This was narrowed and shortened with mounting brackets epoxied inside. The center frame for the boiler support was made from an Athearn heavy duty flat car which was also narrowed and shortened. Brass plates were mounted on the ends and drilled to fit pins on the inner ends of the two powered units; these acted as joints or swivel points for the engine. The rear water tank/coal bunker is the tender supplied in the kit, modified for extra capacity.

Various brass castings were used on the engine and inside the cab. The engine was painted with Scale Coat Brunswick Green (which appears black) with a silver smoke box and stack. After applying Micro Scale Decals, the locomotive was weathered with Floquil mud and earth; water stains were applied around the steam lines and front and rear water tanks.

This is my first attempt at kit-bashing a locomotive and I am very pleased with the results. I am currently working on an 0-6-0 + 0-6-0 Garratt and a small steam turbine with condensing tender using the same kit.





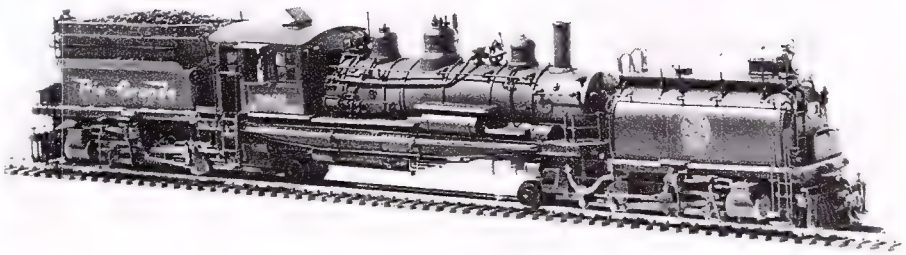
Parts List for
2-8-0 + 0-8-2 Beyer Garratt

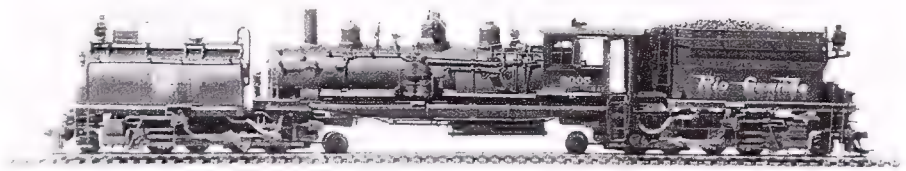
2 MDC #472 HOn3 kits
1 Marklin #4621 high capacity tank car
1 Athearn heavy duty flat car
Various castings by Cary, Cal Scale, and The Back Shop
Scale Coat Paints
Floquil Paints
Micro Scale Details
MV Products Lenses

LOCO BASHING CONTEST

An American Garratt

by David W. Scruggs
Photos by the author





This model is what I believe an American Garratt might have looked like. My model represents a fictional engine that might have been built by the Baldwin Locomotive Works around 1916 for the D&RG. The D&RG was to supply the mechanisms off their recently acquired Crystal River 2-8-0's. Baldwin was to supply the rest. The imaginary Garratt is numbered 3005 and follows the 1923-24 D&RG re-numbering scheme.

The MDC outside frame consolidation lends itself beautifully to freelancing an operating model of a Garratt. I tried very carefully to design the unique Garratt features to be as American or Baldwin as possible, yet function as they would on a Garratt.

The MDC outside frame casting forms the basis for the front engine unit. The firebox portion was filed away to the original motor mount level to lower its height as much as possible. A portion was also removed from the rear of the frame to make way for the trailing truck. Since outside valve gear was applied, Kemtron SP narrow gauge cylinder sets from #1 or #18 were used to replace the MDC cylinders. The valve gear and rods were scratch-built. The whale back water bunker and frame were made from sheet brass, special shapes and strips, square tubing and wire.

The boiler unit is essentially MDC but I extended it one inch to increase its size. The extention is made of brass sheet and strip. The MDC cab was detailed with small side windows and an open hatch. The rear of the cab was enclosed with sheet brass.

The rear engine assembly is also a basic MDC unit and was modified in the same way as the front frame unit. A Northwest Short Line FED 4-4-0 tender shell and frame were used for the bunker.

The model was painted with Floquil Engine Black and other combinations of Floquil paints. These colors were air-brushed on the engine. I weathered the model by hand and airbrush. Pactra Flat White was used for striping. I used Champ decals for the lettering.

Part 2: Framing

by Bob Brown

In the September issue I described some of my past operating scenes and discussed how I researched the Sandy River's Phillips, Maine terminal. I also provided a track plan of the Phillips scene.

In this series I want to share with you the techniques I use to build operating scenes. These techniques are not new. In fact virtually all of them have appeared somewhere in the model press before. What I hope to do is to put them together to describe in detail the way I go about building a scene. I will use the Phillips scene as a focus but I also will digress and discuss the techniques I use in working in HO and HOn3 when appropriate.

Framework

I am sure you have heard it said that a layout is no better than its framework. This *is* true. Nothing can compensate for a warped or weak frame. Your layout will not work right if it is crooked or flimsy. First decide whether your scene is to be portable or merely movable. By portable I mean do you intend to move it and set it up frequently. A convention display layout would be portable. By movable I mean it can be taken apart and moved with reasonable ease to another house or apartment without destroying the scene. I strongly recommend that you make all of your models movable since it takes so long to create any scene that it would be a shame to have to destroy one should you have to move. If you decide that you do not want to keep the scene you can always sell it as a complete and undamaged unit if it is movable. Your alternative is to destroy years of work in a very short time. I have been very successful using light 1 x 2 inch timber for my frames on portable layouts. The British have been using such light frames for years with no trouble. I have used 1 x 2's on all of my scenes except for Phillips. If you decide to use light 1 x 2's you must get the best quality kiln dried clear pine you can find. No warpage can be tolerated. On a movable layout frame I would recommend that you use 1 x 3 inch clear kiln dried pine. The difference in weight is substantial between the 1 x 2 and 1 x 3 inch frames. Too heavy a portable frame ceases to be portable very quickly.

I have found that too large a frame piece leads to damage as the sections are moved. I would not make frame sections larger than 24 inches by 48 inches. You should be able to get the frames through doors and around corners without having to tip them. If they are unwieldy, heavy or odd shaped you will damage them. On a movable scene you can go to a larger size because you will probably have help when you move your model and you will not move it very often.

Once you have decided on the size of your frame you need to cut the lumber to size. I always use a table saw and I use a stop to insure that all my wood is exactly the same length. The table saw also insures you of square corners which are important to insure a good sound frame. I always have my end pieces attach to the ends of the side pieces rather than have them fit inside the side pieces. If the end pieces are inside the side they have a tendency to twist.

I always use white glue and screw my frames together. This was a real chore until I found out about pilot drills. A pilot drill is a drill that makes a hole which is specially designed for wood screws. It drills a pilot hole as well as clearance for the shank of the screw. It also drills the countersink for a flat head screw. All this in one pass with the drill. Pilot drills come in different sizes so it is to your advantage to decide on one size of screw and stick to it. I use #8 screws. They can be purchased in many lengths. The 1¼ inch size is good for screwing frames together. I always use an electric drill to save time and effort. I have also found the use of corner clamps a great help in getting my frames square. You can get by with two clamps but four would speed up your work considerably. I use an electric drill and corner clamps because they make what I consider to be an onerous task easier. If a job is too difficult or tedious it sometimes does not get done. Proper tools make the task easier. Figure #1 shows a typical frame.

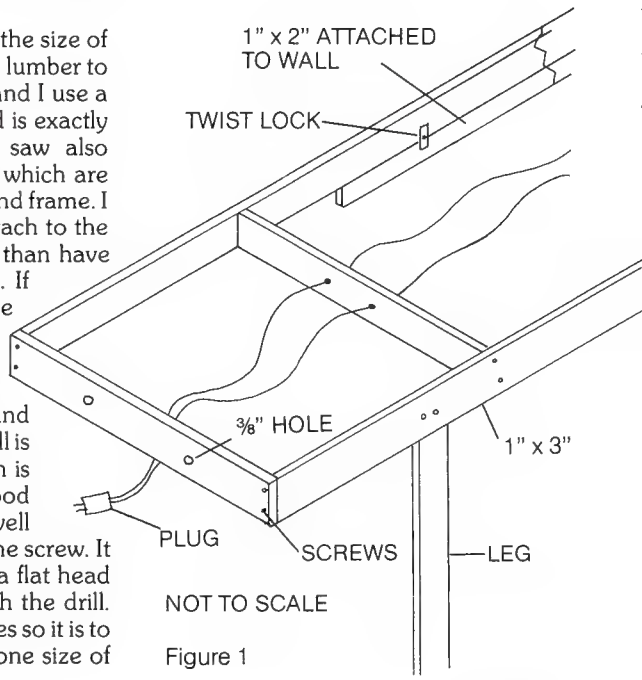
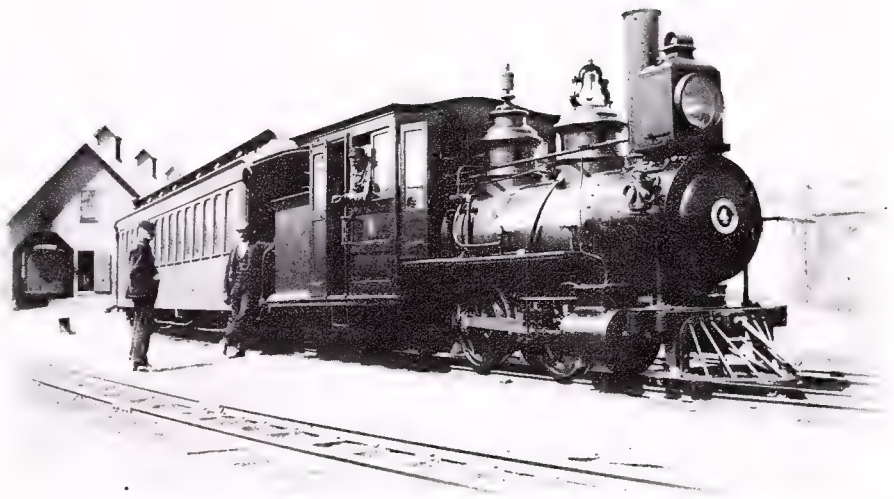


Figure 1

Once you have your frames completed you need to attach them to each other. I am going to backtrack a bit now. I always drill the bolt holes in the ends of my frames before I assemble them. I use ⅜ inch bolts to hold my frames together. I have found that hex head bolts are best because I can use a ratchet wrench and sockets to cinch the bolts up tight. If you use washers between the head of the bolt and the frame you can cinch the bolts up very tightly. I use wing nuts and washers which I find very easy to handle. If you clamp the two opposing ends of the frames together and then drill them you will have a perfect register on the ends. Remember to keep track of which end mates with which. I have also found that if you use a step down shanked twist drill in a drill press to drill your ⅜ inch hole you can achieve a very accurate set of holes. On one scene I used 1 x 2 inch oak for the ends and achieved a virtually machined set of holes because the wood was so hard.



Sandy River #4 simmers in the sun waiting for its departure time. The original Phillips station is in the background. ***Photo, collection of Bob Brown.***

Most of my scenes have had flat top surfaces rather than an open grid. This is because they have been very small scenes and have not had a lot of space for rolling hills. I have used ¼ inch plywood on most of my scenes with no problems. On a movable scene I would recommend that you go to ½ inch plywood and I have seen ¾ inch plywood recommended in some articles. Plywood is expensive but the ½ inch thickness is well worth the cost. I have found particle board to be too heavy. I tried to leave out the plywood on two of my scenes and both of them warped at embarassing places. I always put some form of sound deadening material on the plywood. I have used Celotex, Homosote, Sound Board, and Fir-Tex. I like the Fir-Tex best. If you select Sound Board get a hard version. I have used some that is softer than others. I cannot get Homosote in the area where I live now but the one sheet I got was very nice. If the sound deadening material is too soft the ties will tear off when you sand them down. I screw my plywood to the frames with suitable screws depending on the thickness of plywood. I then use white glue on the sound deadening material and tack it down with finishing nails.

There have been some recent developments in framing that I want to try. One is to take one inch thick styrofoam sheets and glue them to ½ inch sound deadening board. Once it is dry you can run this sandwich through your table saw and produce a very light but strong frame. You can glue on strips of thin plywood to the sides and attach 1 x 2 or 1 x 3 inch pieces to the ends to further strengthen the frame sandwich. All wiring can be hidden in the bottom of the styrofoam and a screwed on piece of masonite can be added to protect the bottom of the layout. Because the frame is solid, bolts and wingnuts will not work. So "T" bolts are used instead. These are little threaded sockets which attach into a hole in a piece of wood usually on the inside. A standard bolt is threaded into the socket to hold the parts together. This kind of framing has real promise but I have not yet tried it. I know there are other ways of making frames but the methods described here are those that have worked for me.

My portable layouts have either been placed on boxes for display or they have had screwed on legs. It is possible to buy tapered wooden legs which are sold in hardware stores for making coffee tables. (See Figure #2). You buy the legs and the sockets. You attach the sockets to the underside of your frame and screw on the legs. You will have to add on a flat 1 x 4 to the bottom of your frame for attaching the sockets. This system works well at conventions but not at home. I always attach my scenes to a 1 x 2 inch strip attached to my shop wall. I use little twist locks to hold the layout onto the strips. (See Figure #1). I then merely have to screw or bolt on light legs to hold up the front of the layout. If the layout is long and it is made of 1 x 2 inch wood I make an additional 1 x 2 inch frame and rest the portable layout on this underframe. In the case of a movable layout I find that the 1 x 3 inch wood can carry the load without sagging so no underframe is needed.

I run my electric wiring through holes which were pre-drilled in the cross members before they were screwed together. This keeps the wire from sagging and getting damaged. Sometimes I use the little special wire clips sold at Radio Shack for holding wires. I always use Radio Shack plugs at the section breaks so the wiring can be detached for moving. This is very easy to do and really makes moving simple. I use Belden wire for my wiring and I use telephone wire for my track feeders. I do not use any fancy methods of

NOT TO SCALE

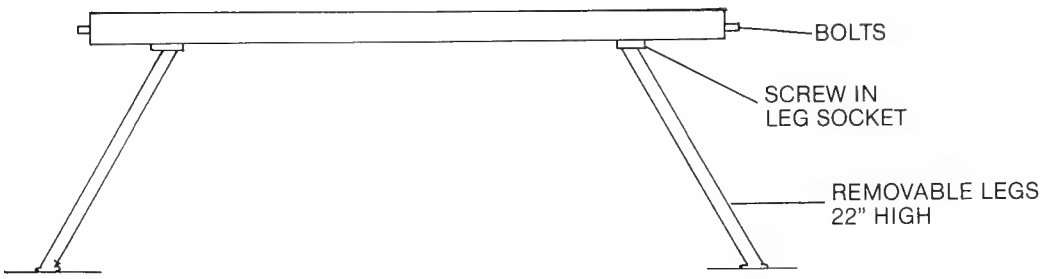


Figure 2

attaching feeders to the rail. I just solder the feeder to the side of the rail. I have seen feeders soldered to the bottom of rails so they do not show but this is beyond my patience. Also I have a feeling this type of attachment might break more easily and would be very hard to repair.

One last comment in relation to portable frames. I have found that if you cut two sheets of plywood large enough to cover the stacked frames you can drill these pieces of plywood with ⅜ inch holes set to fit the holes in the ends of the layout sections. You can then bolt the sections to the plywood pieces so they stack like stretchers. This is a very good way to protect your scene as you move it. Figure #3 shows this assembly.

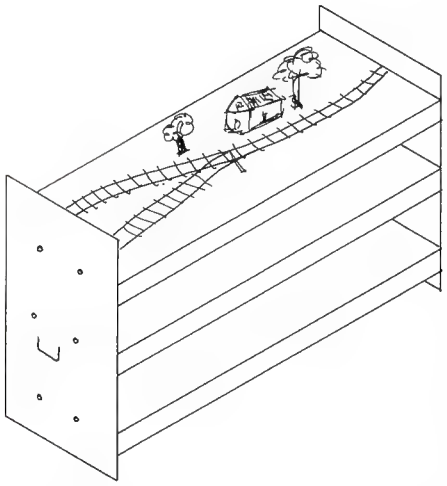


Figure 3. Portable sections packed for movement. Not to scale.

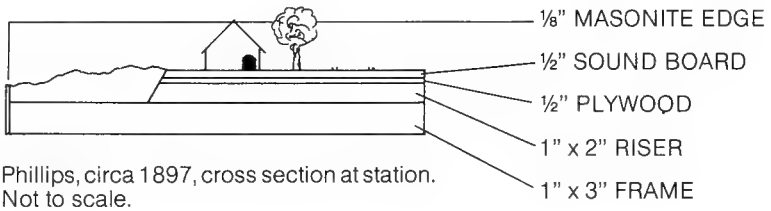
The Framing for Phillips

I used 1 x 3 inch wood for my Phillips frames because I do not plan to move this scene very often. Figure #4 shows the frame for Phillips. The framing was made in two sections in an "L" shape. I used ½ inch plywood which was screwed to the frame. Because I needed to elevate the track level on this scene I white glued 1 x 2 inch strips to the top of the 1 x 3 inch frame pieces. This raised the plywood 1¾ inches off the frames. I then added ½ inch Sound Board to the plywood which added another ½ inch of height to the scene. I laid the plywood onto the frame first and used small pieces of 1 x 4 inch wood clamped to the sides of the frames to make sure the plywood was even with the edge of the frames. I then laid the Sound Board onto the plywood. I had had both the plywood and Sound Board cut into 2 x 8 foot pieces at the lumber yard. I then marked off the shape of the top of the layout and used a sabre saw to cut it to shape. I set the saw at an angle so the front edge of the plywood-Sound Board layer was angled. I then marked the joint where the layout comes apart and ran the plywood and sound board through my table saw to get a good straight joint. The last step was to re-assemble the top of the layout and screw the plywood down and glue and nail the Sound Board onto the plywood.

When I was done I decided to lower the trestle as much as possible so I notched the cross member of the frame and cut a piece of ½ inch plywood to fit in the notches and provided a base for the trestle.

Before I glued down the Sound Board I marked out the location and base of the engine house. Since this engine house has a turntable inside of it I wanted to be able to lift the engine house out of the scene. So I sabre sawed the base of the engine house out of the sheet of Sound Board. I can now lift this piece out so I can build the engine house at leisure on my work bench. I decided to build the rest of the buildings on their own foundations and set them in place. The turntable pit was sabre sawed out so the hole went through the plywood and the sound board.

In the next installment I will discuss my methods of track laying in both HO and O scales.



Phillips, circa 1897, cross section at station. Not to scale.

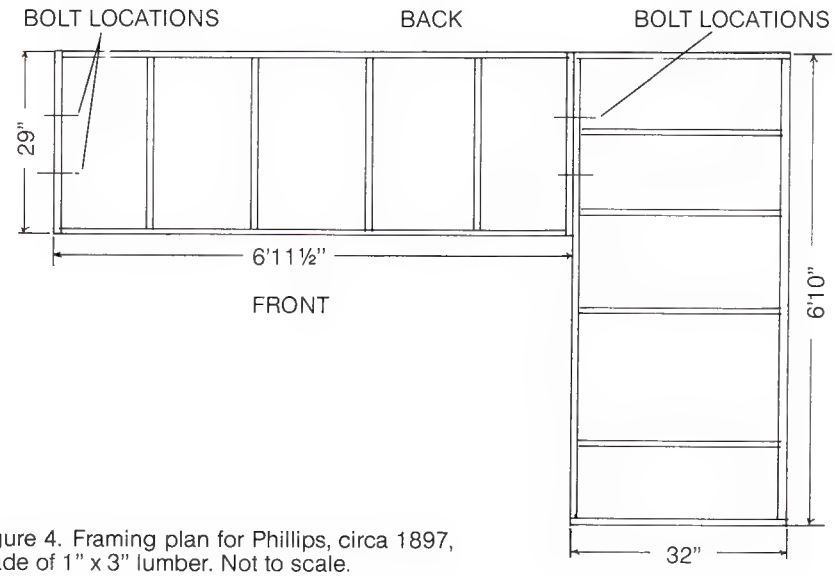


Figure 4. Framing plan for Phillips, circa 1897, made of 1" x 3" lumber. Not to scale.

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Finescale ON3 Rebuilding Techniques

Part VI
The Balboa C-19 Becomes RGS #41

by Kelley Morris
Photos by the author

Introduction

The final chance to enhance the realism of any model is in its painting and weathering. In fact, all the previous work on #41 (or any other model) can be negated by an unrealistic paint job.

I have read and analyzed much on painting over the years, and tried many methods. Finally I developed what I believe is the most viable and easiest way to achieve prototype appearance on a model steam locomotive. I believe most modelers often see only what they wish to see, rather than what is truly available to see. A case in point is the common (and commonly written) tendency to begin any steam engine paint job with a flat pigmented paint. While small amounts of flattener may be added to any paint to "age" the base coat, I believe a gloss or semi-gloss coat provides the best base for weathering. Not only were the prototype machines we portray gloss black (generally), but beginning with this surface allows maximum flexibility as to age, condition and variation of the painted locomotive. I cannot recall any prototype railroad ever painting their locomotives flat black or grey after shopping, although sure as heck somebody did. Since real locomotives weather unevenly, it seems sensible to allow our finishing sequences to do likewise.

Step 1. Preparation

While I normally try to keep the buildup of soldering, flux, dust, etc., at a minimum during construction (by frequent lacquer thinner baths), there are still going to be filings and flux and dust buildups, particularly in inaccessible spots, to cause problems when it comes time to finish the model. A post-construction lacquer thinner bath followed by glass beading at 20-25 PSI, rinsing, drying and another thinner bath in the ultrasonic cleaner is my normal preparation sequence. Those familiar with the old Akane imports will remember a rather distinctive yellow surface on these models. This was achieved by a 5 to 10 second dip in chromic acid. While I do not currently use this acid (I have a young son who wants to get into everything), it can provide a virtual one-step preparation process. The acid is used full strength in a *glass* container. Submerge the model for the alloted time, remove and rinse *thoroughly*. Be careful, this acid eats everything! Dry the model and you're ready to paint. It is wise to use a zinc chromate primer if the above sequence is followed.

While my current prep method is somewhat involved, I find excellent results are possible. Everytime I solder a group of joints, a liberal brushing with lacquer thinner (methyl ethyl ketone works nicely also) removes the paste flux residue, eliminating scrubbing around detail at the end of construction.

Glass beading not only cleans the surface additionally, but lightly textures the model as well, providing a nice purchase for the paint and eliminating the need for a primer. The final washing, drying and ultrasonic treatment all serve to further clean and "de-particle" the piece to be painted. I use a Branson cleaner, although numerous other brands will give comparable results. Be sure that any parts put into the cleaner are suspended to avoid damaging the transducer. If you do not have access to a glass bead blaster, a fine one can be constructed; consult David S. Bush's article in the September 1977 **MODEL RAILROADER** on building a sand blasting unit.

Step 2. The Base Coat

Once the locomotive is properly prepared, the base coat may be air-brushed on. As can be seen in the accompanying photo, a small painting center can be constructed relatively inexpensively. I use a double (charcoal) filtered hood; a Broan, because I cannot easily vent the booth to the outside. Living in an agricultural area can have its advantages: the filter mask used is for chemical crop spraying and is highly protective against paint particles, and even to some degree, fumes. The brand name is Willson and the serial number is R685. I have found the replaceable filter cartridges #R28 to be the best for spray painting. The air supply and airbrush used are both Paasche. While I own both single (H) and double (VH) brushes, I actually prefer the single. The modeler may choose from numerous different spray systems, so make your own choice here. The compressor, a ⅓ h.p. diaphragm type, is mounted on rubber grommets outside the booth and copper

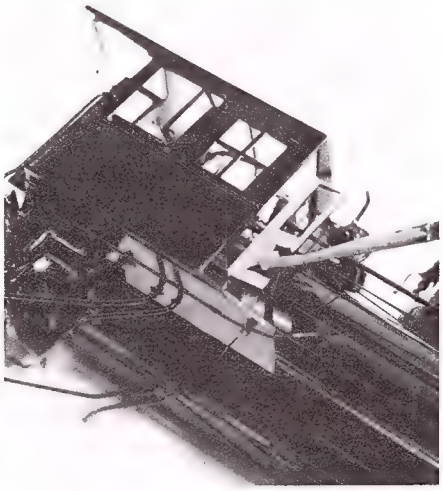
The author's spray booth showing his Willson mask, Paasche airbrush and Broan hood.

tubing is routed through the wall to a single fitting for the hose. Combined with a hidden switch, this system eliminates the bulk of the apparatus to provide a relatively uncluttered two cubic foot booth area. Except on extremely humid days, I have found a Norgren FO4-100-MITA moisture trap filter keeps the air to the brush pure. Keeping a supply of Paasche ½ and 1 oz. jars on hand eliminates the need to clean and refill during the weathering sequence. Those living in an environment where noise can be a problem might investigate bottled CO_2. Not only is the pressure system noiseless, but humidity and condensation are eliminated as well.

I use number 10 Scalecoat black as a base. Normally I apply a light tack coat first, followed by a full wet coat on each part. As mentioned earlier, no primer is necessary. While most modelers know spray painting theory, a short synopsis might be worthwhile for the less experienced painter. Most paints, as they come in the bottle, are too thick to use in an airbrush. Thinning allows the paints to move more freely through the brush and hence provides a smoother surface. If a thick bodied paint is used, more air is also required to propel it, and the more air, the drier the paint will be upon contact with the model. The term "orange peel" is used to describe the rather granular surface which results from this combination. Since our goal is realism, we must spray as smoothly as possible. I thin the Scalecoat approximately 30 to 50 percent to achieve the desired results. Make sure Scalecoat thinner is used, and that it is fully mixed before spraying. Keep the airbrush in motion. Normally long, overlapping strokes are preferable. The stroke should continue past the end or edge of the part before releasing the trigger.

Once all parts are evenly covered, I place them on a cookie sheet and bake them at 185-200 degrees for one hour. This seals the surface and dries out the thinners present in the paint, providing a hard, durable base for the weathering, and detail work. The exceptions to this are the drivers and pilot truck, which I *brush* with Floquil Engine Black to "deaden" them as well as eliminate cleanup of the tires and any possibility of driver tire separation or pilot wheel (plastic) melting. The Floquil may be used unthinned for these parts.

After I remove the parts from the oven, I add the other colors. I use the following order: I brush Floquil Burlington Green full strength onto all interior cab surfaces, including the doors and roof rib. While this color is somewhat brighter than the hue the Rio Grande and R.G.S. used, subsequent weathering will dull it to an acceptable tone. I use #0, 00, and 000 sable brushes for this work. Obviously, a steady hand is called for here. If the green finds its way into the wrong spot, a quick touch-up with the Scalecoat Black (thinned ⅓ for brushing) will take care of the problem.



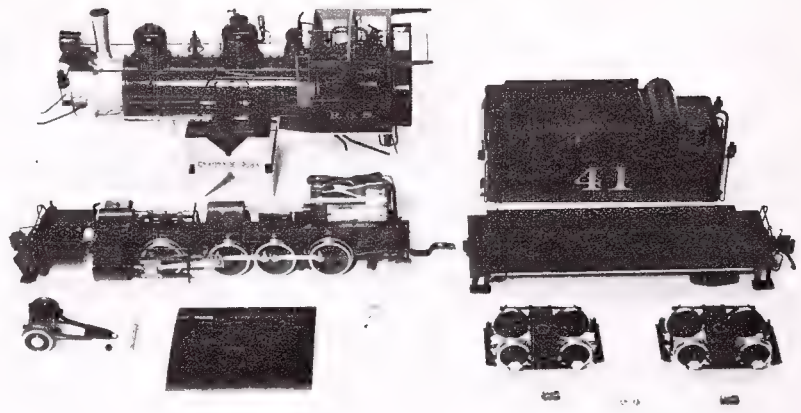
Brushing in the cab color with Floquil Burlington Green.

Next I do the bell and whistle similarly with Floquil Brass full strength. The handles on the turret, etc., in the cab may be dry-brushed with Floquil Graphite (i.e., very little paint) to highlight them and give them a worn or used appearance. The smokebox (alone – not the headlight bracket, piping, etc.) can be brushed now, using Scalecoat Silver cut ⅓. Use the largest brush you feel comfortable with in order to eliminate excessive thin spots and streaks. A #00 for the tight areas and a #3 for the larger surfaces are good choices. Surprisingly, if you work fast, a remarkably smooth coat will result. I have never found a need (with a green boiler jacketed engine being the exception) for liquid masking film. The very good results available by brushing negate, for me, the need for this tedious material. If I worked in HO, however, I might feel differently, for a brush mark in that scale could be a scale ½ inch high! If a few marks still exist, ignore them, for the weathering will cover virtually all traces of them. As a precaution, though, try to work vertically wherever possible as the few marks left will help simulate water streaking. Since this paint sets rather quickly, do not go back over these marks. Even thinned by ⅓, Scalecoat is a rather thickly pigmented paint that can quickly build up to an overly scaly thickness. While the silver is out, I brush the gage faces in the cab and the front cylinder covers as well. Finally, I brush the running board edges with Scalecoat white, thinned 25 percent. At the same time, I do the tender floor edge. If you choose to spray the tender trucks, the tires may be cleared of black, and the rims painted the Scalecoat white. Excellent results can be achieved by touching a full brush to the wheel as it revolves. Be careful to touch the brush only *lightly;* the flow of the paint will fill out the rim. After I paint the journal box covers silver all the above parts go back to the oven for a final hour.

While waiting, I scrape the inside faces of the frame journal openings free of paint, and install the drivers; left side insulated. If I keep everything in order, it all works when reinstalled. Rotating each driver allows painting the driver tire rims white by the method mentioned previously. The rods are best mounted afterward. I finish the pilot wheelset with white centers and rims. At this time the gearbox and motor (see Part IV) may be installed.

Step 3. Decals and Weathering

Since I'm modeling the late 1930's I used the silver set of Thinfilm decals #ON-11. I cut the appropriate letters and numerals, and positioned them as shown in the accompanying photograph. I have about a dozen shots of the prototype #41 during this time period, and they disagree as to lettering and numbering placement. Your own research should dictate the



The completed base coat. The paint and decals are done and the locomotive is ready for final assembly. It will then be weathered.

letterings on your personal model. Since my eventual goal is to change to the (correct) older style headlight, once one is available, I left "keep off" off the pilot beam ends; I left the small engine numbers off the sand dome sides. I should note that Wisconsin water has a lot of chemicals in it, and even with a water softener, some chemical residue can find its way onto the model. To eliminate chemical staining, I use distilled water for setting the decals. Be sure to use Solvaset or some comparable product to set the decals. If the decal set is new, there is usually no need for a clear coat under or over them. However, just to be sure, or particularly if they are older, I use Krasel Micro Coat Gloss as an under and overcoat. It will provide a superior appearance, and may be sprayed full strength under normal conditions. Once all the decals are in place on the individual parts, final assembly, including reinstallation of the boiler weight can proceed. I installed all marker lenses with white glue at this time. Remember to add a thin strip of styrene to the bottom of the deck plate.

The weathering marks the end of the project. The best piece of advice I can offer anyone is "don't overdo it." What we are starting with is essentially a newly rebuilt locomotive (prototype wise). What degree of weathering we apply to it will directly reflect how long it has been outshopped, or in service. The prototype essentially weathers from three directions or sources at once. First, from the stack down and back. Second, from the ground and wheels up. And third, from the atmosphere. Although they all happen simultaneously, the first two are the most immediately apparent. Hence, a recently shopped machine would not be faded or flat, other than in areas directly affected by the first two sources. The longer the engine has been in service, the more flattened the *overall* paint surface. While admittedly the RGS had little motive power and had to go longer between shoppings than the D&RG, it would take months, or even years, for a totally dull surface to occur. Even after long periods of exposure to sun, dust and cinders, areas such as behind pumps, under running boards and in the cab would remain relatively shiny. This, then, is the logic for beginning with a gloss base coat.

While the engine has a foundation coat of Baked Scalecoat, Floquil is used exclusively for weathering, with the possible exception of a final overcoat with Testor's Dullcoat, some miscellaneous powders, and dilute white glue. This is used with almost dry brush in vertical strokes to simulate water streaking; such as where the tender water hatch spills down the side of the tender. It is done before the weathering begins.

Since there is no division between "weathering" and "aging" using these methods, begin the process by filling the airbrush with Grimy Black, thinned approximately 10 percent with Dio-Sol. Set the paint flow for a fine mist, and hold the brush a foot above the engine pointed at about a 60 degree angle. Leave the cab roof on for this operation. The combination of air and distance will dry the paint considerably by the time it reaches the surface. Make a straight pass from 2 inches in front of the engine and tender to 2 inches behind. Repeat this process; always front to back, at least six to eight times. Progressively decrease the length of each pass so that the final one covers only the immediate smokebox area. Three to four passes full length from the back will help fill things in. Three to four more from each side at a slightly lower elevation are next; two full length, the others only over the boiler jackets. If you feel your engine is getting too much, too quick, you are probably right. Decrease the amount of paint. next, even out the stack and the smokebox down to its horizontal centerline. Now lightly dust the entire cab interior. Pay particular attention to the bottoms of the doors. With the roof still off, dust the deck area; slightly heavier near the coal doors themselves. Replace the roof.

To attack the driver and tender truck areas, I have constructed a rather simple paint track; a 2 x 4 with rail laid down its 3-foot length. Eventually I'll build a more elaborate turntable along similar lines to facilitate easier turn around. This article concerns itself only with weathering those areas of the engine readily seen. If the undersides are to be weathered, this must be planned for in advance.

With the engine *running slowly* on the paint track, begin a light misting of the cylinders, drivers, etc. The airbrush is used level. Two or three light passes, followed by angle shots into the backs of the cylinders, deck plate area, etc., should suffice. Now stand back and evaluate your progress. It is wise to weather with the same light your layout uses for best congruence between engine and scenery. Obviously a light overspray of trackage areas will help the total effect, too, but that's another story. I use a combination of incandescent and fluorescent lights overhead with a tungsten 3200K-500W bulb and reflector as a flood source, about 4 feet away, and at a 45 degree angle downward. Once the lighting has been established, do not change it.

Thus far, only one paint has been applied. On a prototype steam locomotive, the cab and tender sides and rear sheet are the last areas to get really dirty. Notice that our process has virtually ignored them to this point. A light pass or two should now be made over the entire engine, including these areas. For this operation mix 75 percent Grimy Black, 15 percent Grime and 10 percent Foundation.

Now two coats of Foundation (straight) are applied to each driver area and the tender truck areas. Again, make sure the engine is running, and concentrate briefly on the fourth driver and ashpan areas to simulate ash residue. Now switch to straight Grime and apply two coats; one to the driver and tender truck areas and the second to the overall engine, including sides, front of engine, and rear of tender.

Airbrushing the final "fill" coat with Grimy Black. The 2 x 4 inch paint track is shown.

Photo Opposite:
The completed On3 RGS #41 acting as a helper on John Berman's beautiful layout. The locomotive is running at the end of a train. Since John's layout is fully sound equipped the noise made by #41 and the head end engine was pure music to any narrow gauge enthusiast. ***Photo by Len Madsen.***

41
RGS

Assuming all of the above has been done with the proper mixture; i.e., little paint, lots of air, you should have a fairly weathered locomotive now. The prototype we're portraying might have been outshopped, say, 10 months to a year ago. Increased quantities (i.e., light coats) at each of the above steps will add to that time. Surprisingly little paint has been applied if the above instructions have been followed.

Now the brush work begins. The smokebox receives our attention first. A #2 or #3 sable brush is soaked with pure, *clean* Dio-Sol and dried with finger tips until moisture content is at a minimum. The portrayal of rain streaks down upon the engine is our goal, so brush vertically on the stack and smokebox in a random pattern. Specific areas causing definite streaks are the junction box, air fittings, step plate, head light bracket and handrail stanchions. This may be followed down the boiler as well – at washout plug locations, seam lines, etc., *conservatively*. Remember that the thinner will reveal the Scalecoat surface underneath, and too little, rather than too much is your only control. The Dio-Sol will cut the Scalecoat silver, so be especially careful here. Remember that nature works *subtly*, not obviously, and too much of a good thing will ruin the effect. Now add rust and white in *small* quantities. The rusting will normally occur at moist areas first, i.e., rain gutters and around the water valves. A 50/50 mix of rust and foundation can be lightly airbrushed to the sides of the smokebox area if an older effect is desired. This simulates the wearing out of the paint in this exposed area. Do not do it over the entire smokebox – only in patches along the open areas on the sides.

Dry brushing *Floquil* Reefer White in certain areas can highlight those details and duplicate chemical residue from water or steam leakage. I normally apply this only to the check valve joints or tender water fittings, usually on an engine that hasn't seen the shops for a long time.

With the moist Dio-Sol brush again: brush lightly through the dirt on the cylinders, valve gear, rods and tires, always with an eye towards what *gravity* has accomplished. Gravity causes liquids, i.e., rain, oil, to drop. This can be applied to the undersides of the cylinders; (brushing from the bottom up), the side rods, main rods and valve gear, brushing straight down, and on the driver tires by brushing in a random sequence in a line straight out from the driver hubs. This will simulate the effect centrifugal force has on the weathering.

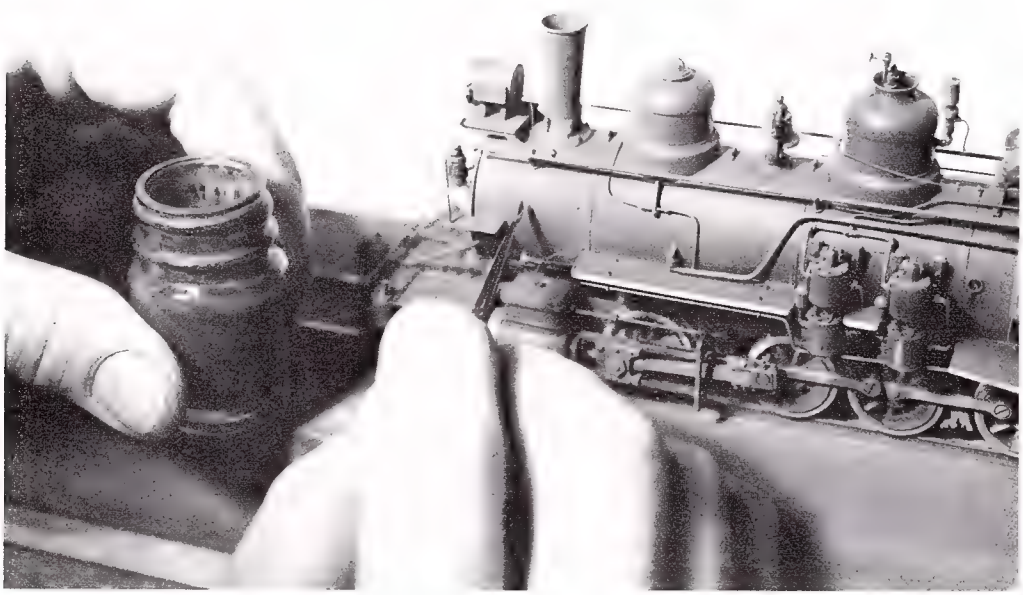
You might wish to sprinkle some fine sand on the running boards and cylinder heads (the RGS used buckets which were sometimes misguided) and a few cinders on the cab roof. As these things lay in place for long periods of time, they should be added before the final overspray. Use dilute white glue.

For the final airbrushing, we return to the starting point (Grimy Black). A selective "once over lightly" will tie the total job together. Without this final coat, your efforts will look like so many different operations rather than a natural aging and weathering process. Those wishing to duplicate an engine which has not been shopped or painted in a long time will have to adjust the sequence described above. A little more time may be added with a light spray of Dullcoat before the final Grimy Black treatment. If even more time is desired, an initial once over before the process with 25 percent Grime and 75 percent Dio-Sol is advised.

Artists' dry pigments dry-brushed selectively onto the model may add highlighting and a dry bleached-out appearance, but if the model is to be handled at all, this step may cause some problems. Although these powders, as well as cigarette ashes can be sealed in with Dullcoat, some of the "dryness" will also be lost.

The final step is the coal load. Since the load was added often; sometimes daily, it was not subject to weathering as was the locomotive. I use a rather off-beat substance for simulating coal. If you've ever been by Anaconda, Montana on I-90, you've probably seen a huge black slag pile looming out of the distance. Although I don't know the exact make-up of this substance, I do know that it makes up into a rather realistic coal load. I normally screen it into three different sizes (obviously for scale) and then selectively mix them for use. It is basically a non-magnetic material, but a few passes with a magnet are worthwhile. It is installed in the tender bunker with the traditional dilute white glue/detergent mix. Be sure to seal the bunker with five-minute Epoxy before adding the "coal", particularly if sound has been installed! If a trip through Anaconda is out of the question, any of the commercial products may be used, or real coal may be crushed and utilized. Be careful not to get too uniform with the chunks – nature is watching. A light shot of Grimy Black will tie the load nicely, but subtly into the overall scheme. If time is a factor, the coal load may be installed before weathering, but be quite careful to avoid too much paint on it.

This article completes the RGS #41 rebuild. While the series was written as a specific guideline for rebuilding a particular locomotive, the information can be used as a guide for rebuilding and finishing the engine of your choice as you add ideas and experiment on your own. Hopefully, the information I've presented will aid many of you in your scale endeavors. I'd appreciate seeing the results. Write to me in care of the **GAZETTE.** Good Luck!



"Drybrushing" the staining details on the boiler. The brush is just slightly moist with straight Dio-Sol.

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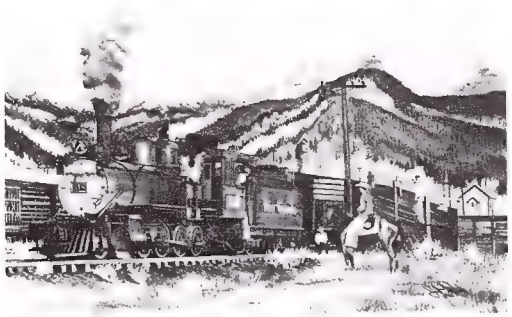

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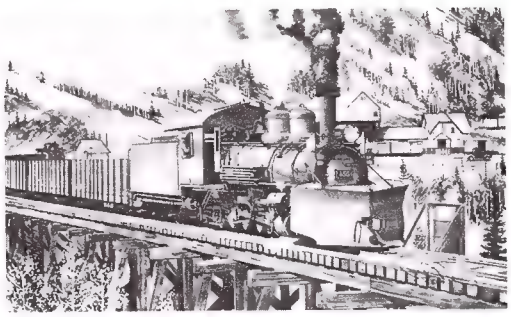

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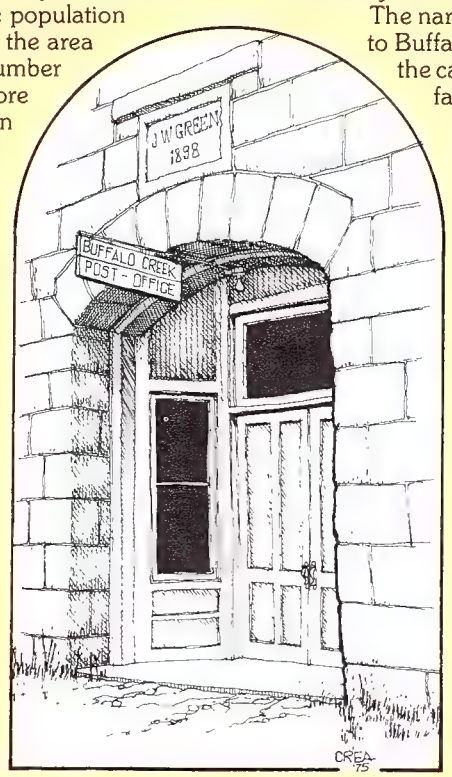
the Old Stone Store at Buffalo, Colorado

by Joseph K. Crea

When the Denver, South Park and Pacific construction crews completed the line as far as Buffalo, Colorado (also known as Buffalo Creek) in the spring of 1878, only a few residents had settled in the area. Forty miles from Denver on the banks of the Platte River's North Fork, the narrow canyon runs into lush grassy meadows surrounded by heavily-forested hillsides. With the coming of the railroad, the population grew within a few years to about 1,400 as the area prospered. Each day, 25 to 30 carloads of lumber were sent down the canyon to Denver. More trackage was added to the spur that had been built in Buffalo. The spur reached a maximum of 2,761 feet, and a 16 x 40 foot frame depot was erected. Three sidings were used to handle general merchandise, lumber, cattle, and even some feldspar.

In 1898, Mr. J.W. Green built a stone warehouse and general store. Business was good, and soon a frame addition to the warehouse more than doubled storage capacity. The small village of Buffalo had established itself on the site, including other stores and residences, but none of the structures were as substantially constructed as Mr. Green's two buildings. The store's dressed-stone front faced the South Park's right-of-way, while the warehouse was adjacent to the main spur. The plan on page 45 shows this arrangement. The warehouse and side and rear walls of the store are rough-cut stone. Two gracefully arched windows in the store's facade have unusually large panels of glass. The interior has changed little over the years, with plenty of wood and glass shelving and showcases for merchandise. In the rear of the store, there is a meat counter on one side and a small office with postal facilities on the other side, surrounded by ornate wood screens. A stair near the meat counter leads to the upper floor, but the basement is reached by the outside stair at the rear of the building.



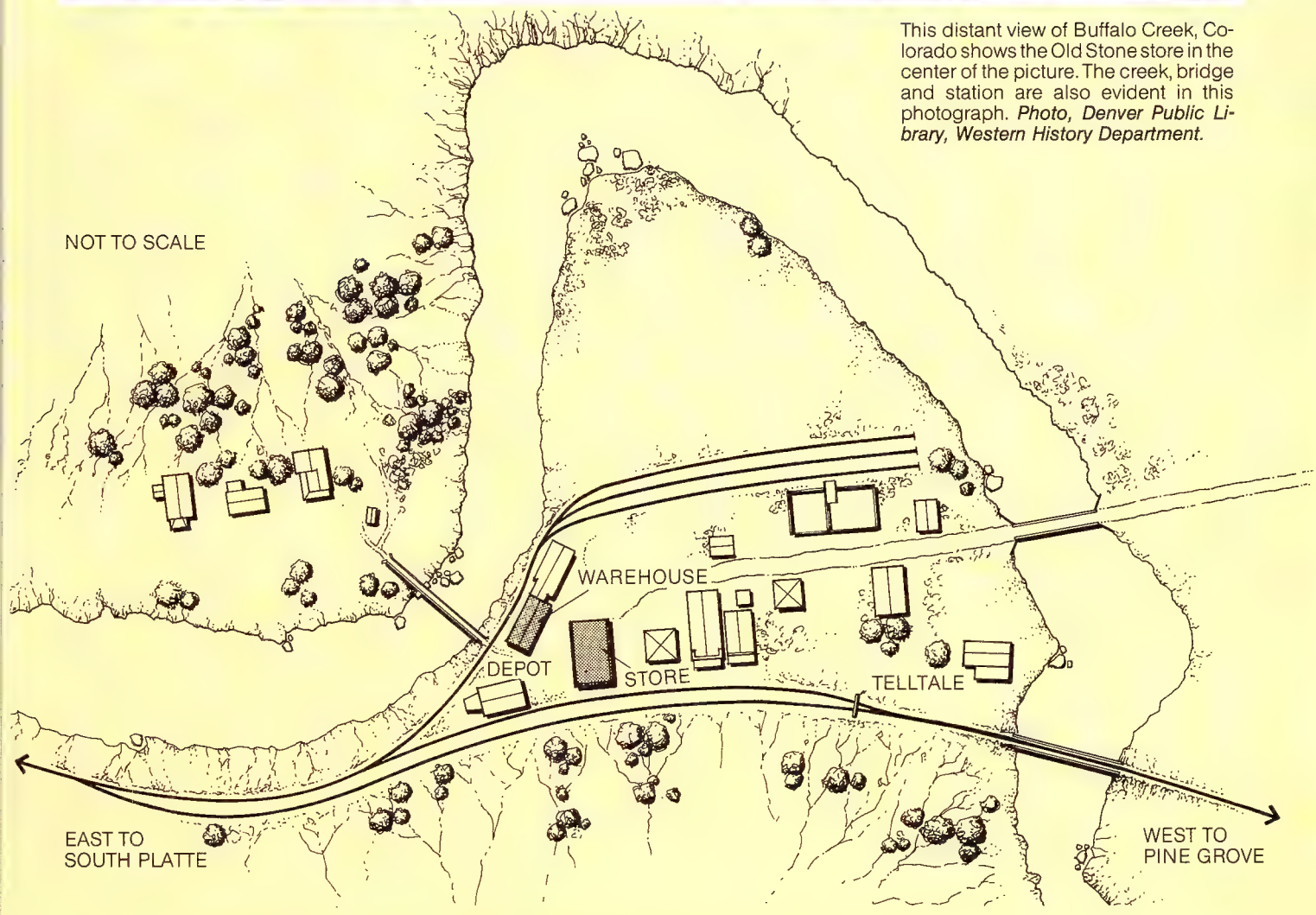
The narrow gauge trains from Denver made the trip to Buffalo in a little over 2 hours, winding slowly up the canyon's steep grades. Regular service to Buffalo ended in 1937, and the tracks were soon removed.

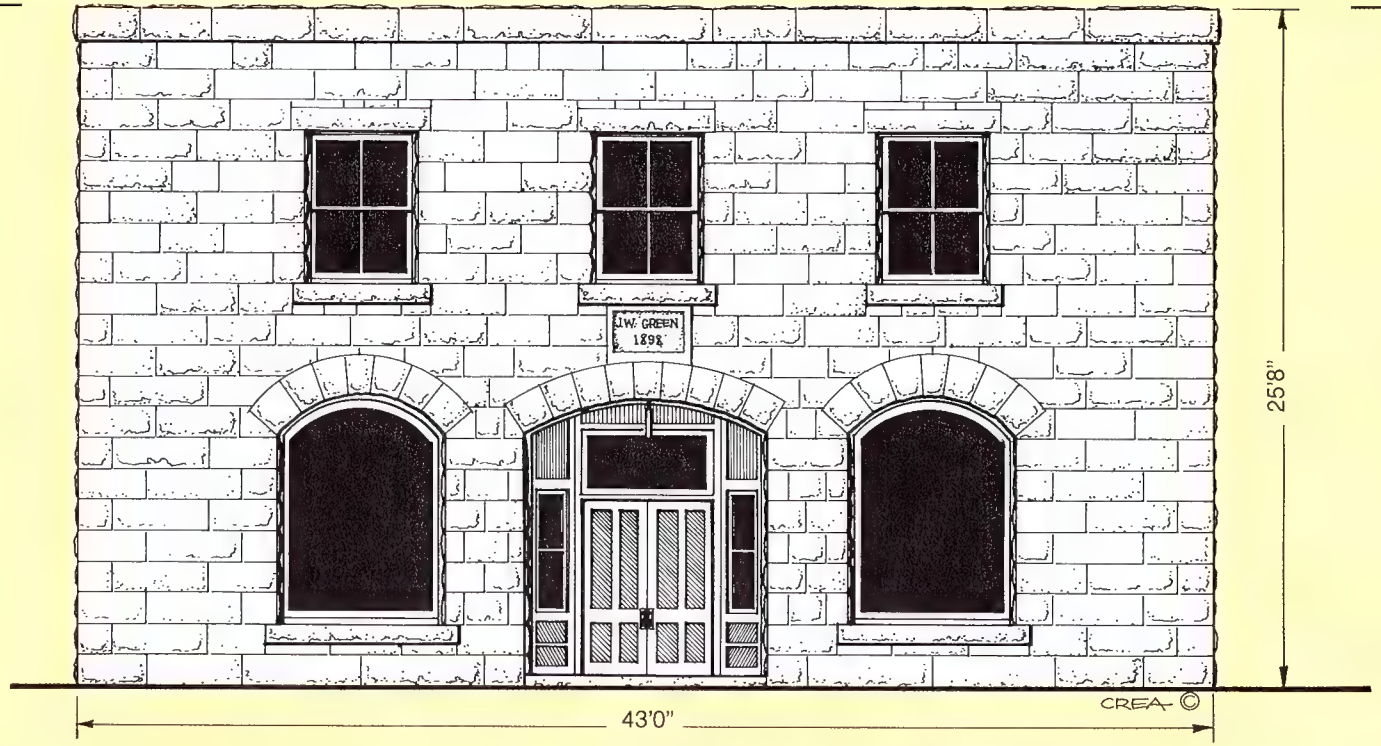
Today, little remains of the village of Buffalo, but Mr. Green's stone store and warehouse look as sound as the day they were completed and both continue to serve campers and residents in the area. The depot is gone, too. There are conflicting accounts of its demise. Some say it burned, others insist it was demolished when the tracks were taken up. In any event, there are no traces of it today.

Additional photographs of the Buffalo store and vicinity may be found in the *Colorado Rail Annual #12,* on pages 31, 225, and 268.

Historical references:
The South Park Line, A Concise History (Colorado Rail Annual #12) by Chappell, Richardson & Hauck; published in 1974 by the Colorado Railroad Museum.
Denver, South Park & Pacific (Memorial Edition) by M.C. Poor; published in 1976 by the Rocky Mountain Railroad Club.

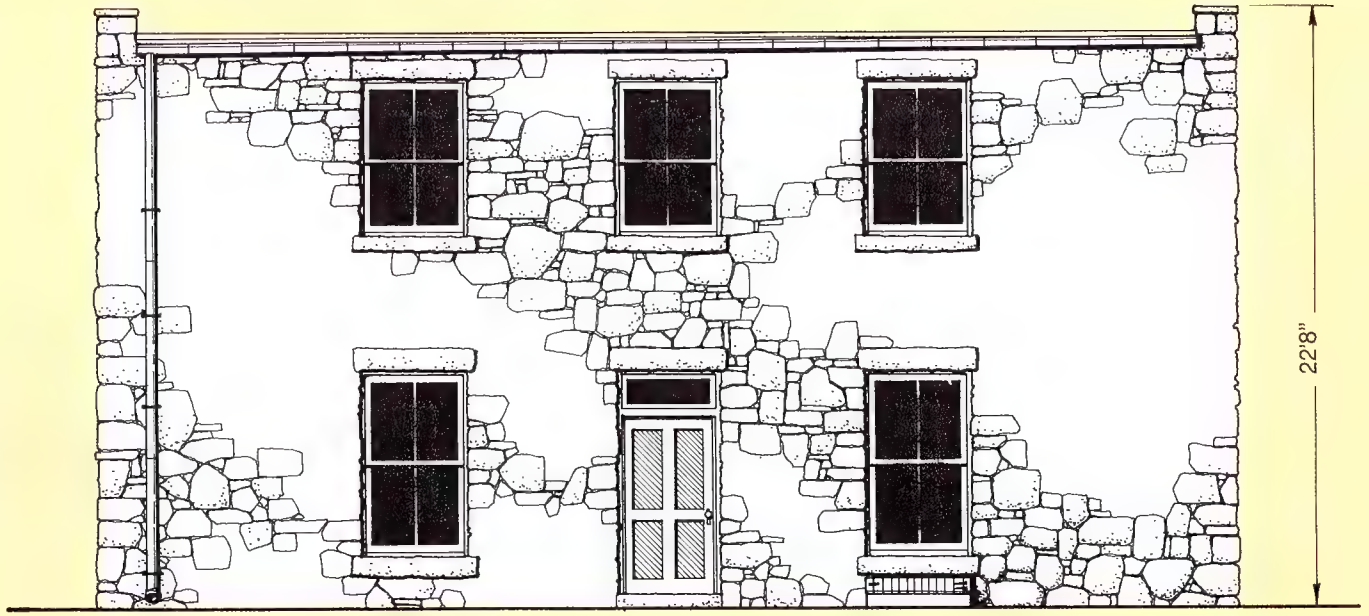
This distant view of Buffalo Creek, Colorado shows the Old Stone store in the center of the picture. The creek, bridge and station are also evident in this photograph. *Photo, Denver Public Library, Western History Department.*





FRONT ELEVATION

REAR ELEVATION



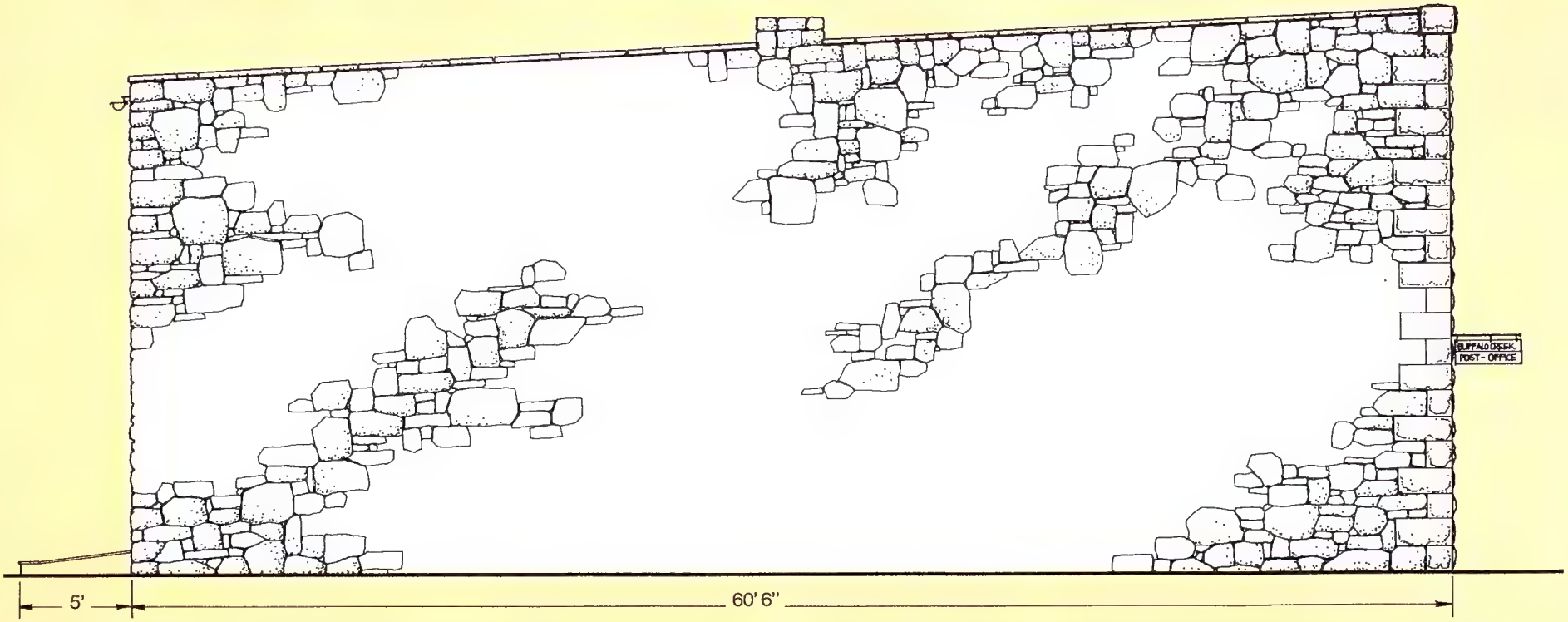
A front view of the store. ***Photo by Joe Crea.***

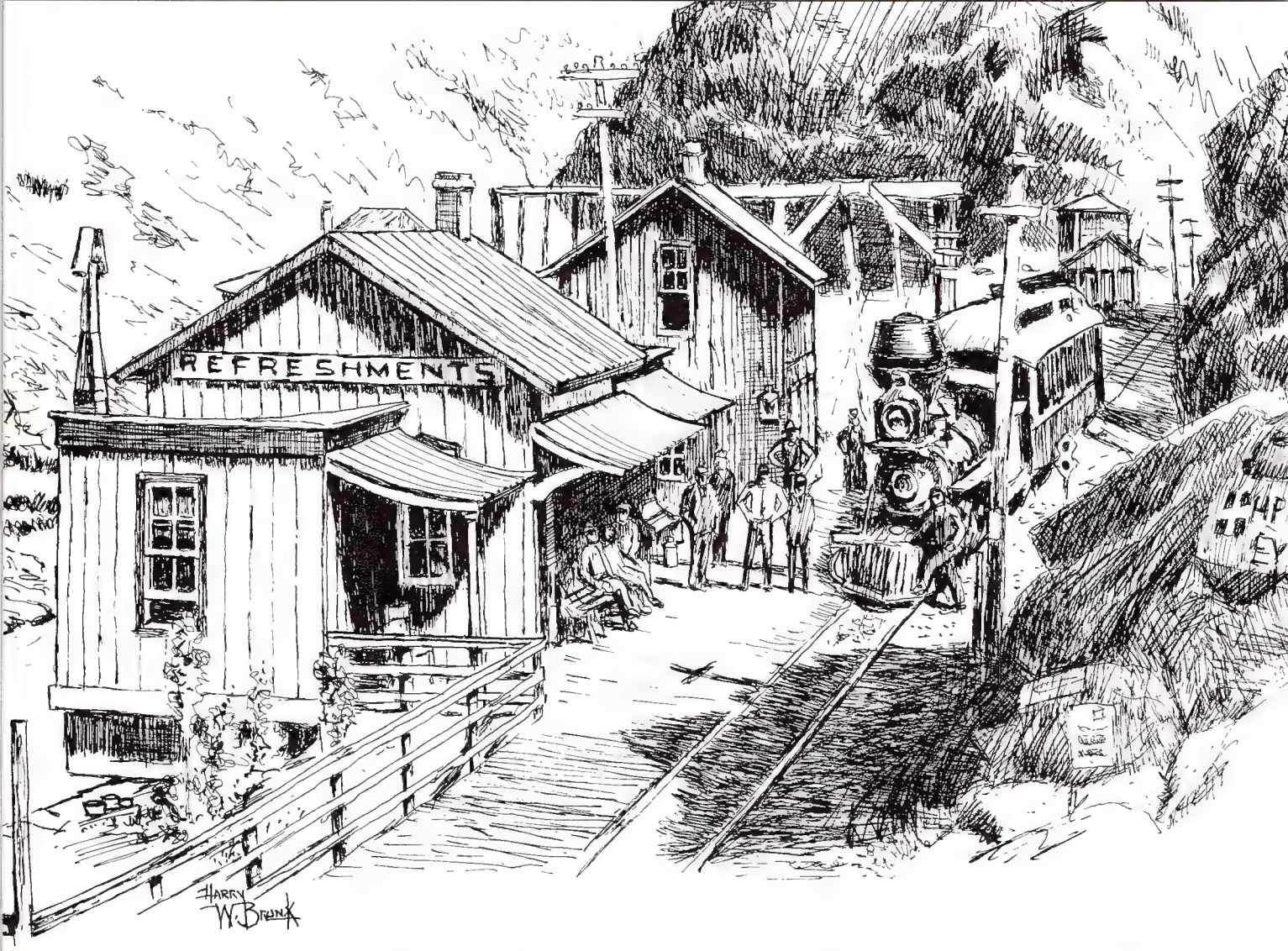
The Old Stone Store at Buffalo Creek

Drawn by Joseph K. Crea
Scale: 3.5mm = 1 foot

Interior plans and photographs of this store as well as plans for the warehouse will appear in the March/April issue of the **GAZETTE.**

SIDE ELEVATION





Up Clear Creek on The Narrow Gauge

Part I: The Forks Creek Station and Eating House

by Harry Brunk

The Clear Creek branch of the Colorado and Southern is only a small piece of the action in one of Colorado's largest narrow gauge empires. Volumes have been devoted to The Denver South Park and Pacific and the Colorado Central. The story of their building and eventual evolution into the Colorado and Southern parallels the history of the rise, fall and revival of the mining industry in Colorado.

It's interesting to note that after years of scraping along on ever falling revenues, the depression ridden 1930's finally saw a change for the better. Even as the C&S moved successfully along toward final abandonment of it's narrow gauge empire, carload shipments were rising steadily.

But it all came too late. Highway building and trucking were finally catching up to Colorado. The mines had an alternative when the C&S asked for abandonment. Piece by piece stretches fell like dominoes to abandonment until the final stretch of C&S narrow gauge was standardized in 1943, and the Colorado and Southern was out of the narrow gauge freight business. It took the D&RG some thirty years more (happily for fans) to accomplish this.

But all this is well documented history. Let's concentrate on the little three-foot world of the Clear Creek line. Specifically the hardware and real estate.

There's much here of interest. After leaving the dual-gauge yards at Golden and heading west (mostly) up Clear Creek Canyon, you're in narrow gauge country pure and simple. The railroad followed the creek bank in the best tradition of narrow gauge builders – following the path

A photo day at Forks Creek. Everyone takes a few minutes to pose for the photographer. The sketch is based on a series of Weitfle photos. The world was younger then. The paint was fresh, the iron and brass polished, and everyone had a proud and purposeful spring to his step. There was a job to be done and a sense of dignity seemed to surround even the less lofty work.

of least resistance. Though the highway later built over or near much of the old road bed uses some six or seven tunnels to reach Idaho Springs (the narrowest stretch of Clear Creek Canyon) the railroad used none. The result was miles of hairpin curves snaking along the bottom of the canyon, broken by an occasional bridge crossing to the opposite bank. Along the existing stretches of the road bed are some fine examples of the Cornish and Welsh workmanship in building rock retaining walls. These are smaller versions of the vast retaining walls used near Alpine Tunnel along the Pallisades of South Park fame. Cut and placed with precision (and no mortar) these retaining walls give the impression they are only a few years old.

Clear Creek has been known to go wild from time to time. This caused alterations and rebuilding throughout the history of the line. Alterations were usually minor however, this prompted employees to believe in the waning years that the railroad preferred to keep the line close to the creek so each washout would add evidence to their case for abandonment.

Passing by early attractions such as Elk Creek (in later years only a water stop) and Beaver Brook – an interesting station and siding once sporting a dance pavillion up on the mountain side, we arrive at Forks Creek. Already we've sampled three and four percent grades. Now you can see why short trains or double and triple headers were the order of the day on this branch.

Forks Creek was a division point on the Clear Creek branch. Here the North and South forks of the creek joined – here the C&S built a wye across the fork. One branch heading north to Blackhawk and Central City, the other continuing westerly to Idaho Springs and eventually to the Georgetown Loop and terminating at Silver Plume.

The Forks Creek Station early in its life had a companion structure in the form of an eating or refreshment house. Numerous early photo stops were made here. Middle and later years of existence for the eating house are not so well documented. Mallory Hope Ferrell's Gilpin Tram book shows that eventually the gap between the station and eating house was filled in. Those with access to *Colorado Rail Annual #10 "Narrow Gauge to Central and Silver Plume"*, will note that the "Station List" on page 207 states that by 1896 the Eating House measured 16 x 51 feet with an addition of 16 x 32 feet and a 16 x 27 foot auxiliary building between. This possibly would match up with the building in the photo in the Gilpin Tram book (taken in 1910) but how those dimensions could fit the earlier Refreshment House is beyond me. There is the possibility of fire or flood destroying the early structure. No proof exists one way or the other, but I'd almost be willing to wager the Rail Annual figures list a rebuilt Eating House. At any rate the depot out-lived all versions of the Eating House and in later years stood alone.

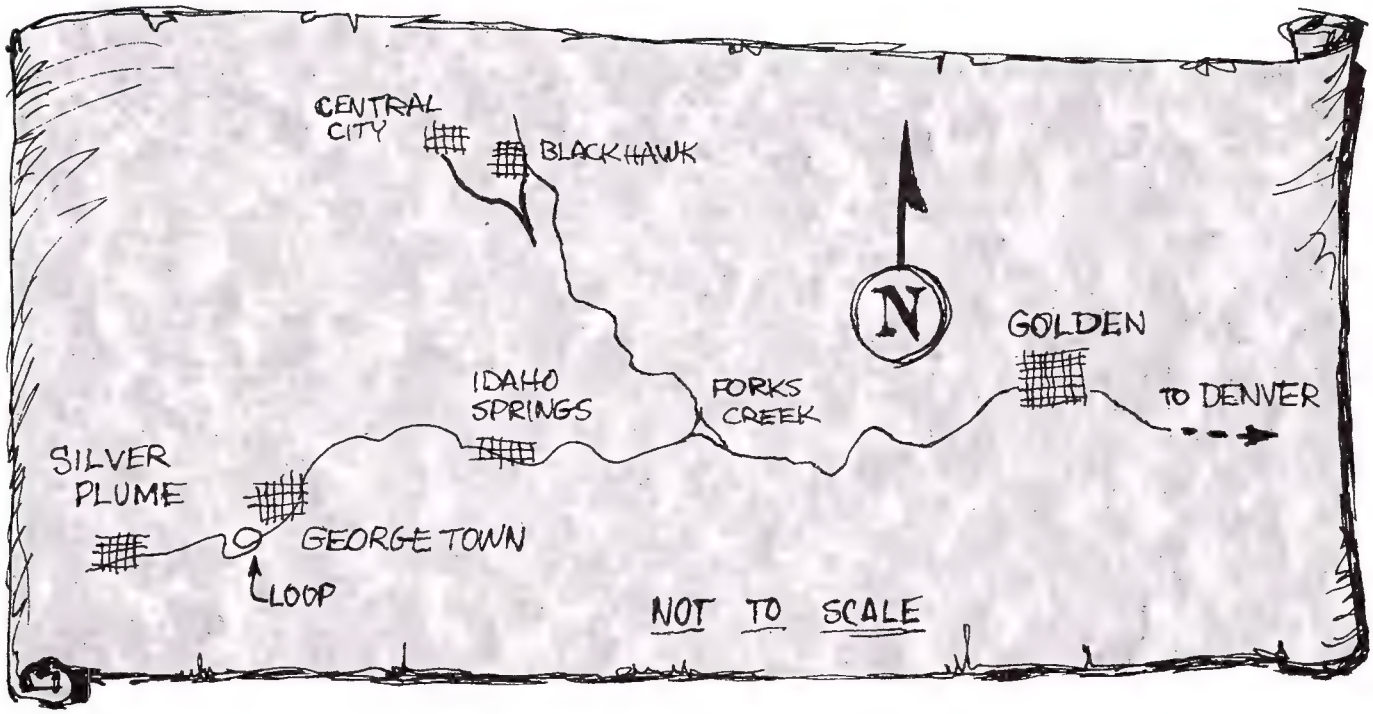
The plans show the station and Refreshment House in the early years, although the station roof was originally shingled as noted. No photos of the back (south) or west sides of the structures have been found, so educated guessing, artistic license and reasoned "imagineering" were substituted.

As modeled, the eating house was built and weathered as it might have looked in later years with no structural changes. Like an aging dowager she still serves her original purpose on the UC&N.

Modeling the station and eating house presents no real problem with possible exception of the sweep in the permanent awnings on the eating house. Grandt Line windows proportioned out best for both structures. HO-29 (S and O equivalents) double hung 21 inches and 64 inches were used. The eating house had modified top frames. I substituted Campbell doors and windows on the back sides.

The station was probably a streaked box car red with cream or depot buff window frames. The eating house was light-depot buff with window frames and doors a darker color, perhaps boxcar red. The window sills and mullions were the same lighter color as the sides.

The roof of the Eating House seems to be similar to the batten or ribbed seam roof shown in Al Armitage's Sept/Oct 1978 **GAZETTE** article. There is a form of semi-corrugated sheet with a similar appearance that can be found on many



The Clear Creek Division. Originally the line went beyond Silver Plume a distance that is subject to some debate. The map shows the line as it existed most of its life. Only major points are indicated.

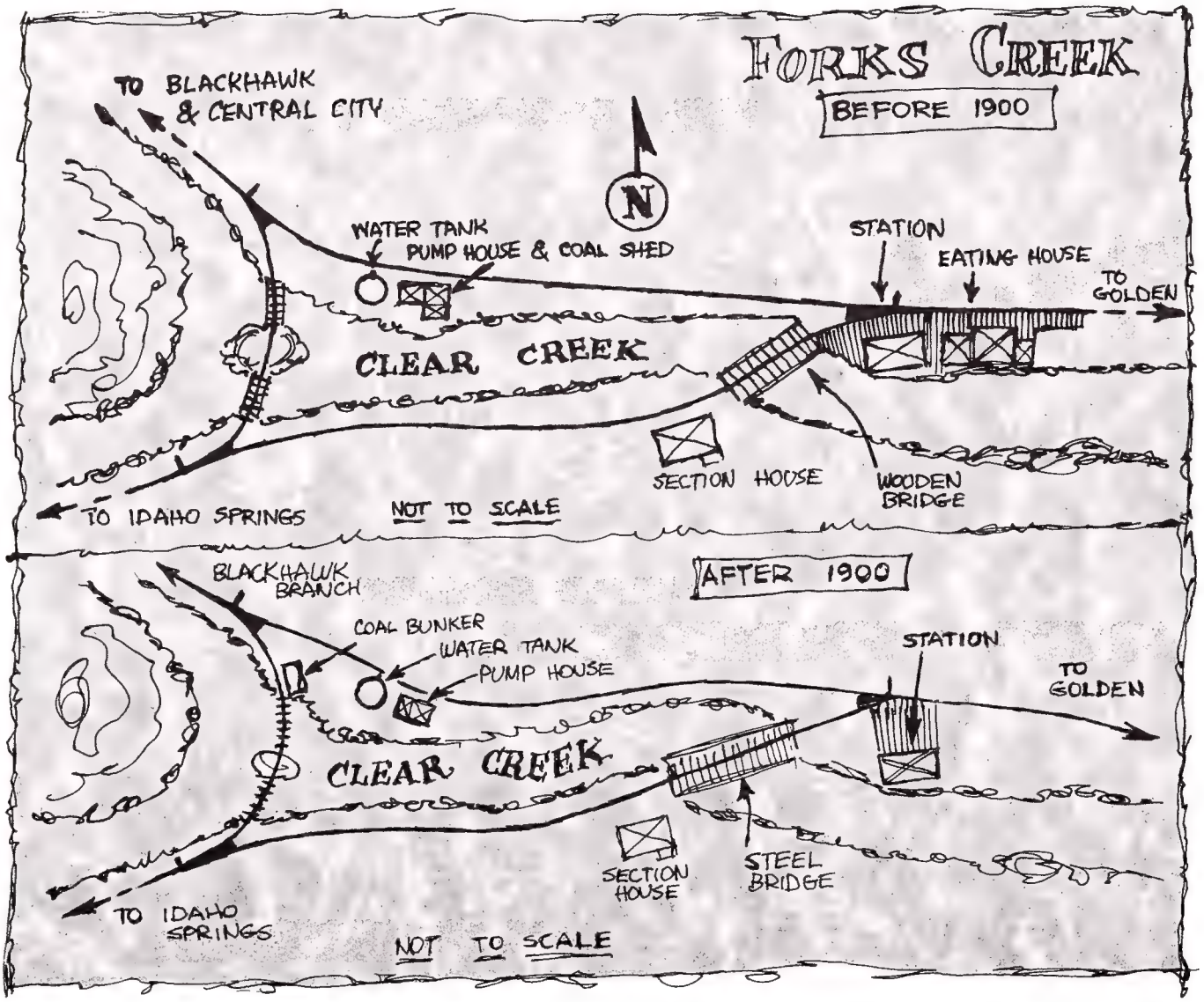
older buildings in Colorado (and elsewhere) today. I have seen it used as siding also. The UC&N version was fashioned by embossing heavy duty aluminum foil over Northeastern board and batten siding. Painted a rust-streaked and faded boxcar red, it probably would have matched the dark trim originally.

The kitchen chimney was fashioned with soldered brass tubing. This was an interesting exercise in patience and exhausted my stock of socially unacceptable words which I reserve for those occasions when things slip at the most critical point in construction work.

Early in its career Forks Creek's main through truss bridge was replaced by an iron one. In the process there was some line relocation (see map). The following years saw other changes, many no doubt due to the spring run-off flooding.

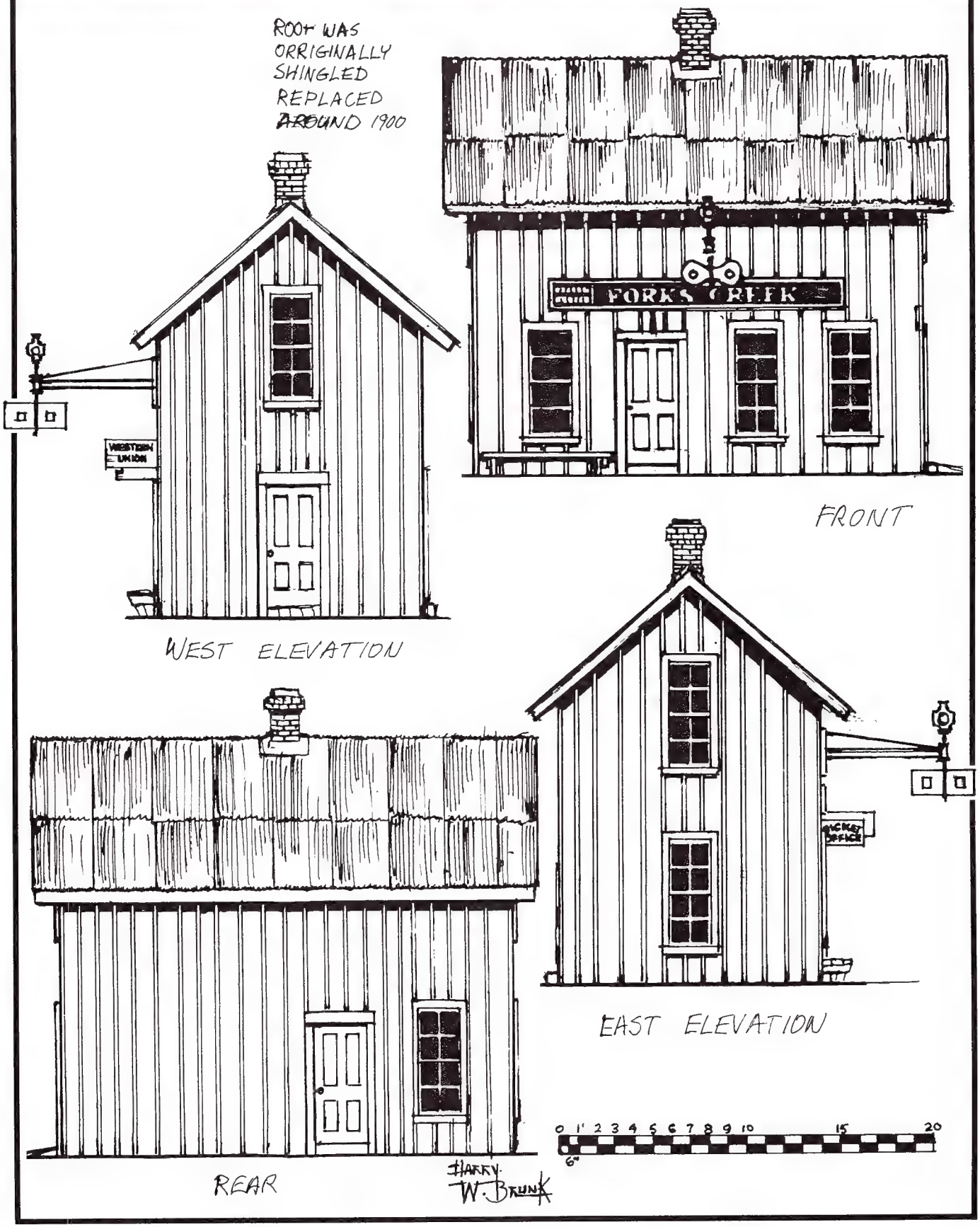
Next: Forks Creek Section House

Forks Creek as modeled by the author (the UC&N). Showing wear and age, but still proud and useful.



Forks Creek. No eating house is shown in the "After 1900" sketch as the history and conformation is not fully known.

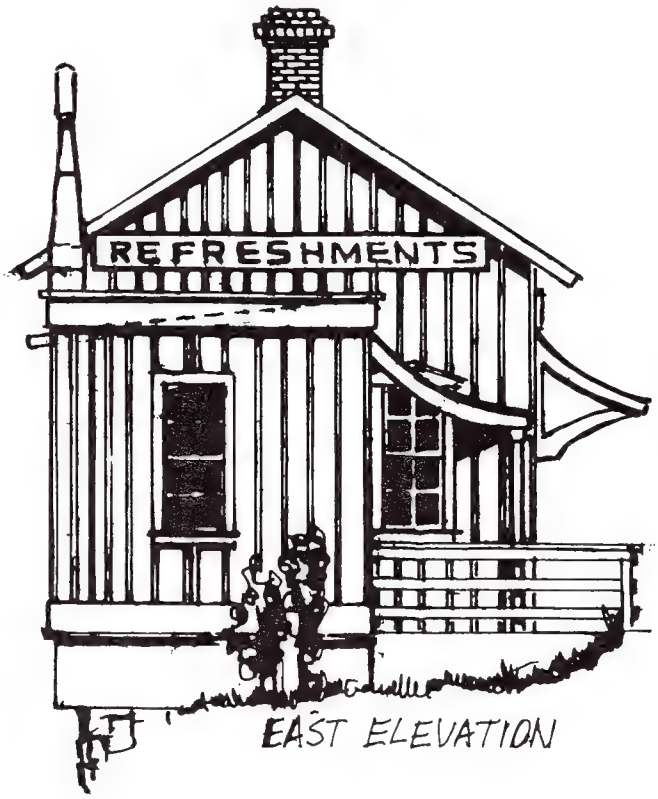
FORKS CREEK STATION



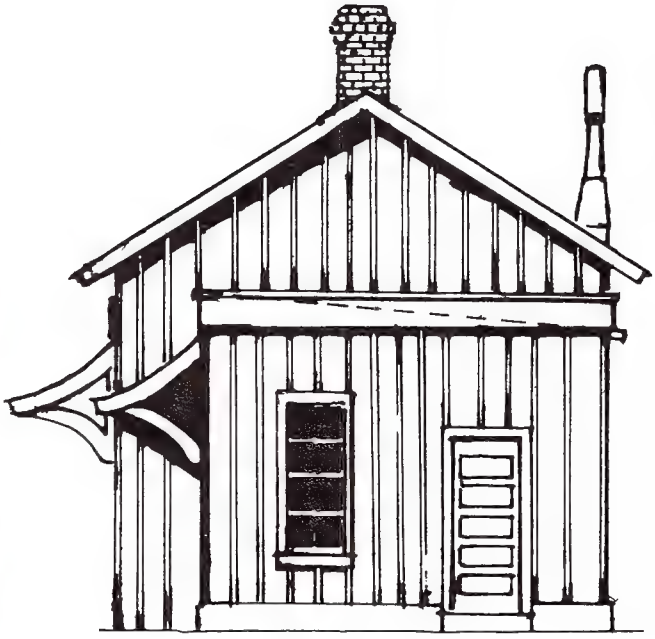
FORKS CREEK EATING HOUSE

View from the ridge. A busy day at Forks Creek on the UC&N.

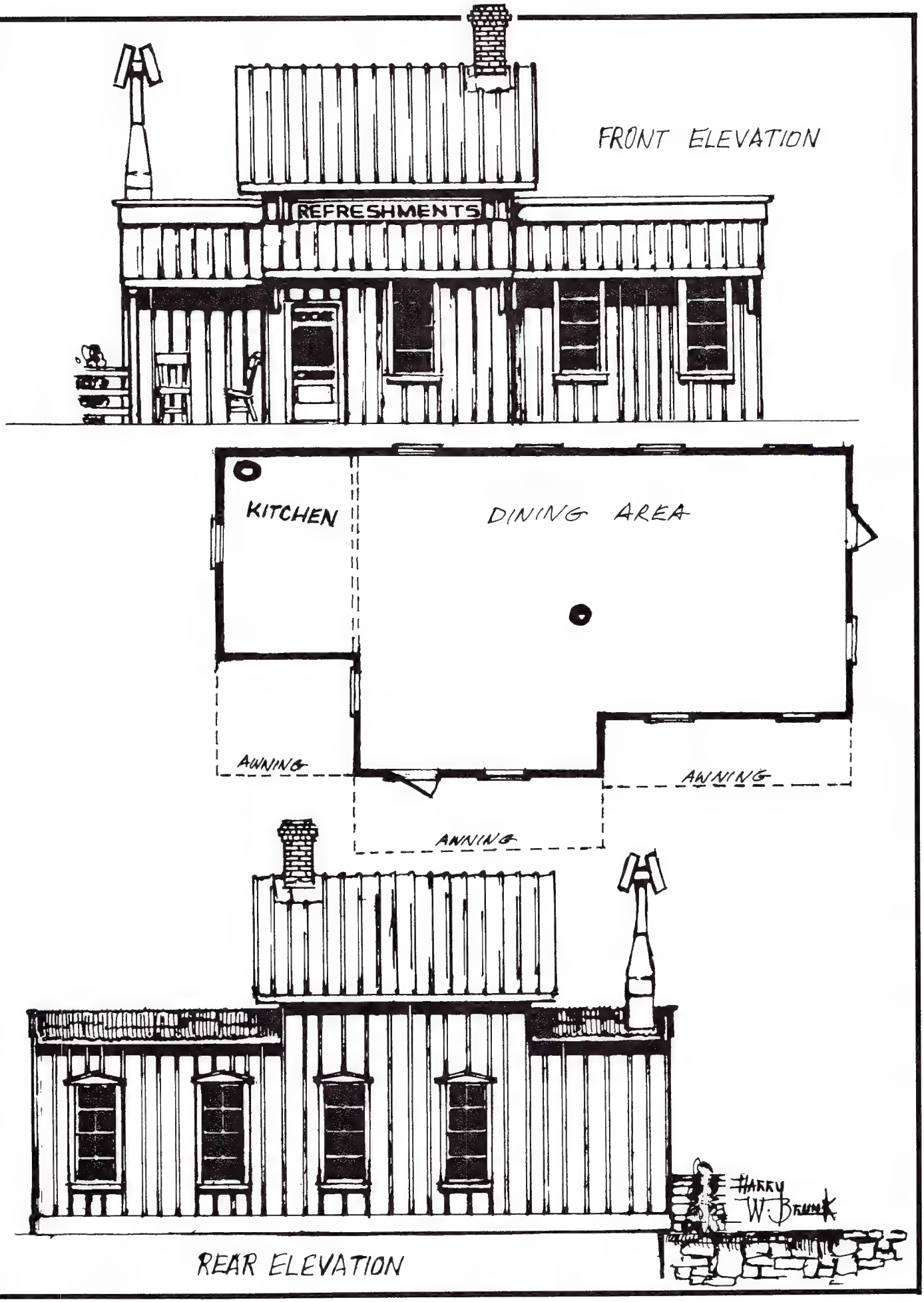
From across Clear Creek. No photos of this angle of the prototype have come to light, so the window arrangement is subject to conjecture.



EAST ELEVATION



WEST ELEVATION


FRONT ELEVATION
REFRESHMENTS
KITCHEN
DINING AREA
AWNING
AWNING
ANNING
HARRY W. BRUNK
REAR ELEVATION

The MODELMAKERS NOTEBOOK

by AL ARMITAGE

Part 2
Back in the Good ol' Days

Last issue I wrote about the trials of becoming a model railroader back in the days when you did virtually everything for yourself and showed you a photo of my very first locomotive. In this issue I continue my story of the good old days.

Sometime after 1939, several new manufacturers began offering a variety of driver castings, trucks, and other detail parts in O gauge. Among these were Irv Athearn and Willie Walthers, two of the few pioneers who still survive to this day.

With parts available in quarter-inch scale, I decided to convert to Q gauge, a gauge slightly narrower than O gauge which never really caught on. One of the deciding factors was some beautifully detailed, fully sprung, die-cast freight trucks sold by Carl Auel. His 4-wheel and 6-wheel passenger car trucks were superb, also being fully sprung and exquisitely detailed. If I recall correctly, the Pullman trucks had 144 separate parts, including working journal box lids, and sold for around 12 bucks a pair: Heavy O scale cars, riding on these trucks, tracked like a dream through turnouts. At slow speed, you could even hear the wheel clicks over frogs.

Unfortunately, the trucks were not insulated for two-rail although this form of power distribution was gaining favor. I acquired about forty pair of the freight trucks which I had to convert to Q gauge and insulate. By this time it was 1943 and I had invested in a 6-inch Atlas lathe which made the job possible. Photo 1 shows my shop, also in the cellar, but with a cement floor, this time. A couple of the engines shown on the bench appear in Photo 2 and Photo 3. Like their predecessors, they were largely scratch-built from brass sheet and bar stock. I still used the series wound K&D motors but had learned to install a small rectifier to provide reversing from the control panel. Thank goodness, no more third-rail.

Photo 1. Al Armitage's shop in 1943.

Photo 2. A free-lance diesel electric. The ballast was gravelled roofing material.

I had discovered that the sheet tinplate, used for furnace ducts, was a great improvement over brass for rivetted cabs, tenders, etc. It was stiffer than the brass and did not distort as readily. The box-cab diesel, a free-lance version of the CNJ original engine, was made of this material. Trucks were home-made and the floor was a slab of ¼ inch brass. Heavy? You bet!

The 4-8-2 followed B&M lines but had an outside frame lead truck and Santa Fe style number boards. The superstructure and tender were tinplate fabrications. Like the diesel, it was Q gauge and two-rail.

Photo 4 shows a tank car which was made of tinplate, also. The tank ends and dome tops are wood. Notice that I had found some smaller rail, by this time. I also built a box car which had stamped metal ends and roof with illustration board sides. Doors were die-cast as were the corner walks and brake wheel. Both cars ride on the Carl Auel trucks mentioned above.

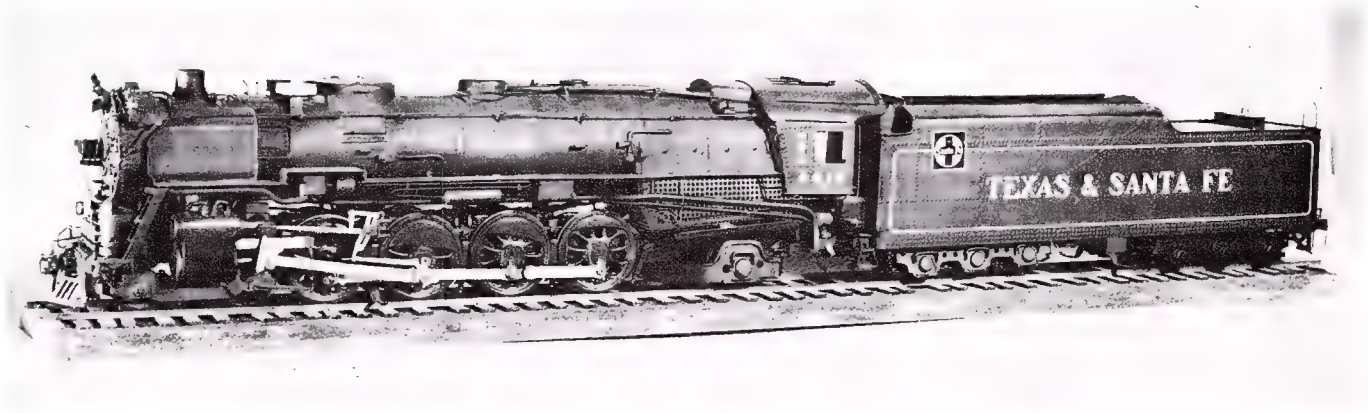


Photo 3. Quarter-inch scale, Q gauge. The pride of the line.

Another scratch-built engine appears in Photo 5 along with one of my early structures. Built before I'd ever heard of styrene, the station was constructed of wood with individual boards and battens. Looked pretty good at the time.

Along with the Q gauge layout, I had become interested in live steam and was one of the charter members of the New England Live Steamers. In the shop in Photo 1, I built a ¾ inch scale 2-8-4 type locomotive making most of the patterns and doing most of the machine work on the 6 inch Atlas lathe. The engine was based on the Pere Marquette 2-8-4.

I made some diesel units of wood with home-made trucks cast in lead with brass bushings for the axles. They never got completely finished. Perhaps I was not entirely satisfied with the construction for some reason I can't remember. I swapped them for an enormous 11 pole motor which a friend had. The motor came from an auto horn and had skewed armature segments which, combined with the eleven poles, made it run very smoothly. I used it in a model of the Santa Fe 3450 Class 4-6-4 which ran beautifully for its day.

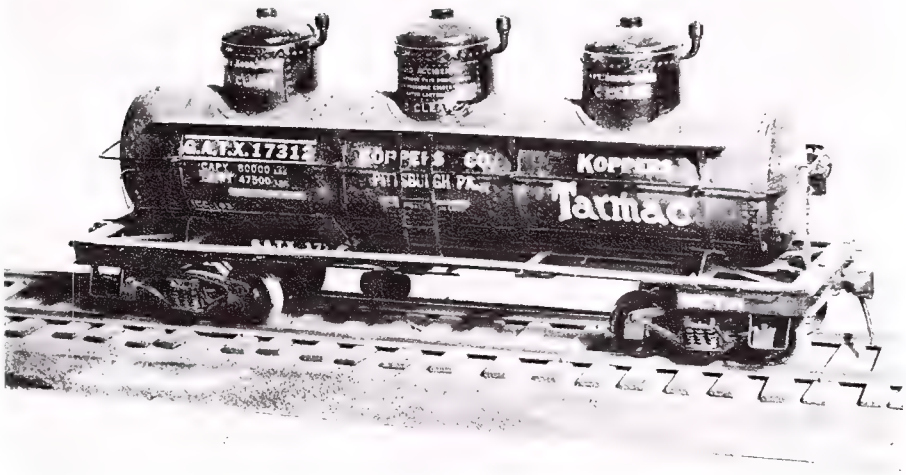


Photo 4. A scratch-built tank car.

Photo 5. Unfinished "Berkshire" posing in front of the Wells station. The shingles are cut from sandpaper.

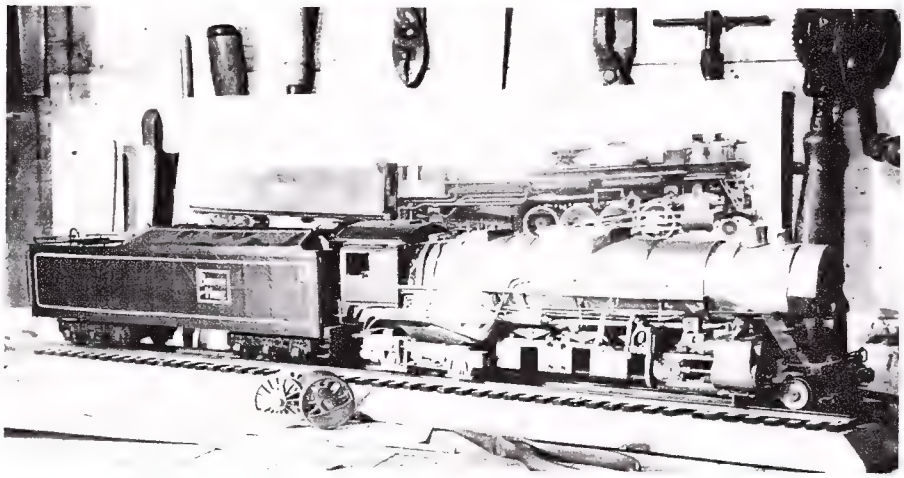


Photo 6. B&M 2-8-4 under construction. The author was quite proud of this model. It even had cab interior details.

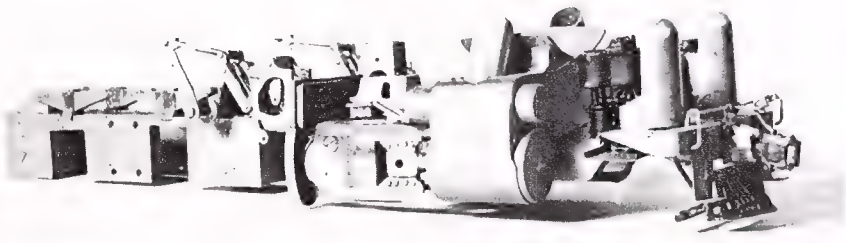


Photo 7. The chassis with full working Baker valve gear.

One of my most ambitious models up to this point, was a B&M Berkshire seen under construction in Photo 6 and Photo 7. I went all out on this model and, for its time, it was pretty well advanced. The journal boxes were made from ball bearings and were sprung. Nearly everything was scratch-built, of course, including a full working Baker valve gear. About the only castings used were the drivers, air pumps, couplers, and tender trucks. That Lima trailing truck was hand-made including the booster engine and, like the prototype, had the ash pan mounted on it. It was called a tandem truck since the main frame had no cradle, or frame extension, as most engines do so the tender was connected directly to the truck. In the model, this sometimes caused derailments when backing up a train. I cured the problem by spring-loading the truck. Otherwise, the engine ran like a clock and, with a #4 K&D motor (and weighing 16 lbs.) it would pull all the cars we could find to hang behind it. If memory serves me right, this was the 12th locomotive in seven years, not counting the live steamer.

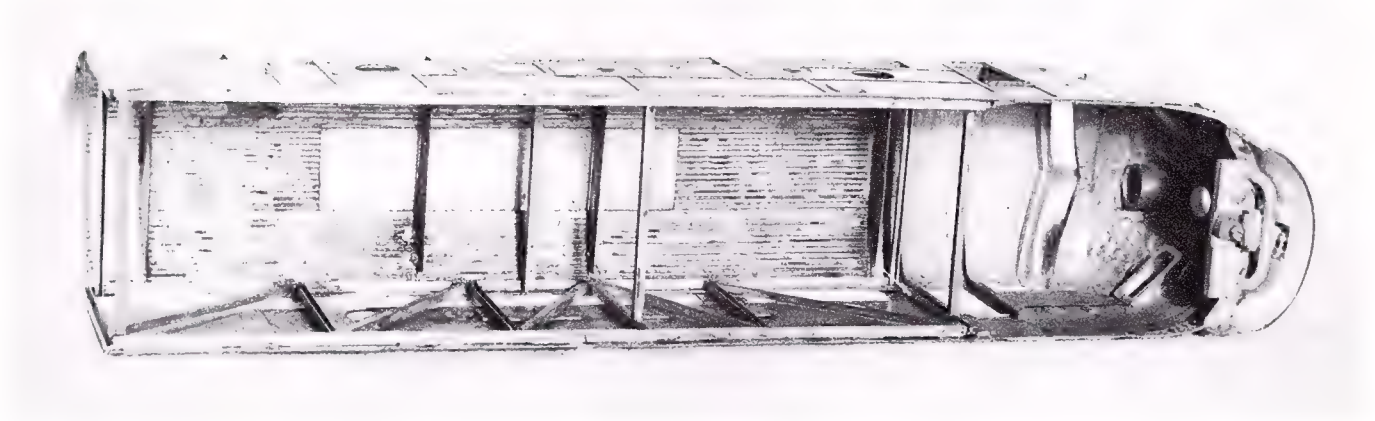


Photo 8. One way to build a diesel roof.

I'd built a slew of cars along the way, too, as well as several layouts. I still had no machine tools, except the lathe, so I was doing most of the work with saws and files. An electric soldering iron had replaced the early gas heated one, however.

About this time, I went to work for an industrial model shop where I had access to more machine tools and began to learn other techniques, such as soldering with a torch, using silver solder, how to use a milling machine, etc. I learned how to use plastics like Plexiglas for heat forming and vacuum forming, as well as in structural models of all sorts. This was a marvelous education for a hobby modeler since it taught me to approach things in a different way and made me realize that there were a wide variety of materials and methods one could choose from in building models. I worked on models of everything from working ball-point pens to engineering models of oil refineries; from all-brass radar installations to animated display models of the J-47 jet engine. You name it, we made it. I learned the best way to produce whatever was needed for a given model in a professional manner. I also learned how to make it better and quicker with machines.

Sometime around 1948, while working at this company, I decided to try another pair of diesel units since I couldn't afford the die-cast Atwater kit (later All-Nations) then on the market. The cost was around $64.00 as I recall.

I fabricated the nose from brass sheet, cutting, hammering, and bending it to shape then filling in the cracks with solder and filing the finished contours. The sides were sheet tin, with rivet strips done on a home-made press, applied to a built-up channel brass frame work. Making the roof presented some problems since I had no way to form it out of metal sheet. Well, if you can't do it one way, try another. I'd had plenty of experience doing things the hard way so what the heck. Photo 8 will give you a clue. Shaping a form from a piece of pine, I laid lengths of 1/16 inch dia. brass rod side by side soldering them solidly in place. The assembly was then filed down to a smooth surface. The result was a fairly decent looking roof although it left me with sore hands, tired arms, and knee-deep in brass filings. Being a bear for punishment, I made two of these roofs, one for an A unit and the other for a B unit. Unfortunately, (or perhaps fortunately) the models never progressed much beyond the stage shown. I kept them for a number of years thinking to finish them one day but never did. The B unit got damaged, while moving, and was scrapped. Mike O'Connell, of Chooch, now has the A unit in his possession, probably as a reminder that there *must* be a better way of doing things.

I've about run out of space so we'll continue this saga next time.

Al —o

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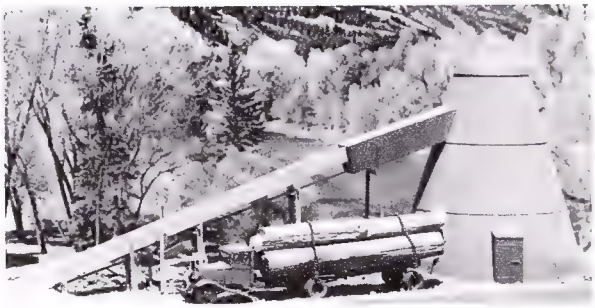

EHD-503 $19 95 HO Sawdust Burner

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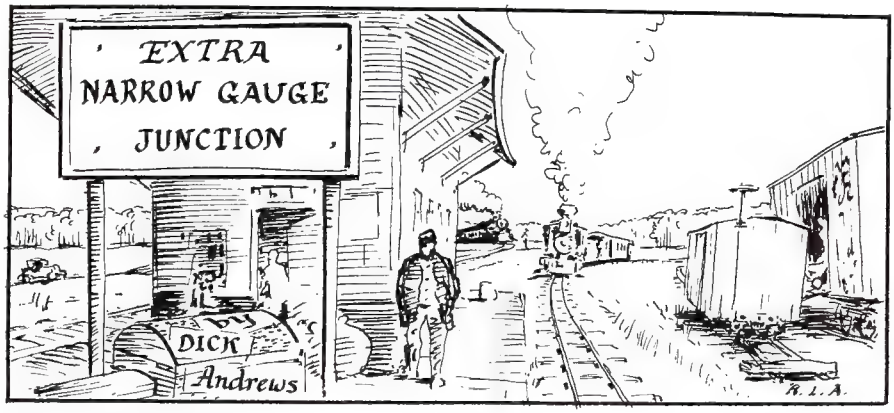


by Dick Andrews

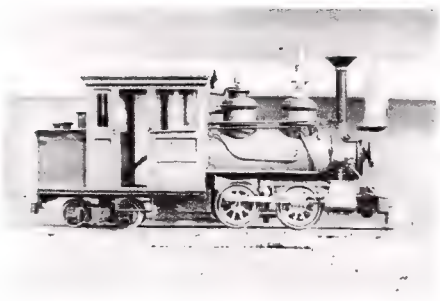
Last time I mentioned standing beside the oldest narrow gauge locomotive in the world at the Festiniog in Wales. This was the first narrow gauge locomotive ever built, and she was 103 years old then and under steam, working. Think of that! All of the locomotives built since could still be chuffing about. Of course you need a superb shop and some re-boilerings, etc. You could say that it is like Murphy's axe which has had six new blades and seven new handles but is still the same axe. But still . . .

Actually these first ever narrow gauge locomotives were a pair – I saw the PRINCE (of Wales) at Port Madoc on the Festiniog Railway in 1966, and I understand that his twin, PRINCESS, is not in such good shape at the moment. The Festiniog – the first narrow gauge railroad to replace horses with steam locomotives – has not dumped its kettles off of trestles like Sandy River did. Thus it is running happily with some very ancient equipment. It is kept going as a tourist road by a group of enthusiasts.

The Festiniog actually dates from the 1830's when the two foot (actually one foot 11½ inches) gauge quarry track was extended down from the quarry town of Festiniog to the deep water dock at Port Madoc. Twelve miles of two-foot track wound down the mountain to maintain a steady, easy grade. The tiny six-foot long, three-foot wide quarry "trucks" ran down by gravity in long strings. Slates were neatly stacked on their edges for roofing between the end rails. Horses pulled these cars back. So busy did the railroad become that the director and his son, James and Charles Spooner were soon discussing steam locomotives. "No!" roared Robert Stephenson, the builder of the famous ROCKET and then chief constructor of steam locomotives. And there was a problem; steam locomotive designs of the time were not very compact. Nevertheless, George England and Company of London designed and built two steamers for the line in 1862. The PRINCE and PRINCESS were these two tiny seven-ton 0-4-0T's with 8 x 12 cylinders and 24 inch drivers. They were cabless, with an overall tank of box shape. (They now have cabs and saddletanks.) A four-wheel tender carried coal. Each could walk away uphill with 60 little slate cars in a string.

The Festiniog brought in an 0-4-40T articulated, LITTLE WONDER, which walked away with 120 slate cars uphill. This engine could roll at 40 mph and more, and the road added passenger and general service traffic with long double-truck passenger cars and some freight cars. These longer locomotives and cars stayed on the two-foot main line, but the PRINCE and PRINCESS and four similar 0-4-0's chuffed off onto winding little spurs with "quick" curves and abrupt saddles to take cuts of the little slate cars, and some eight-foot quarrymen's passencar cars right up to the quarry areas.

The success of the PRINCE and PRINCESS smote the railroad engineering world right between the eyes. Just when everyone wanted to have a railroad, and most localities couldn't afford "wide gauge", here was a railroad carrying real traffic on a light, goat-track roadbed. No huge expensive fills and viaducts; the little rails just wound around to avoid the need of them. General William Palmer went to Wales, came home and started the first three footer – the Denver & Rio Grande. George Mansfield followed close on his heels and came back to promote the first two-footer, the Billerica & Bedford, near Boston, Massachusetts.



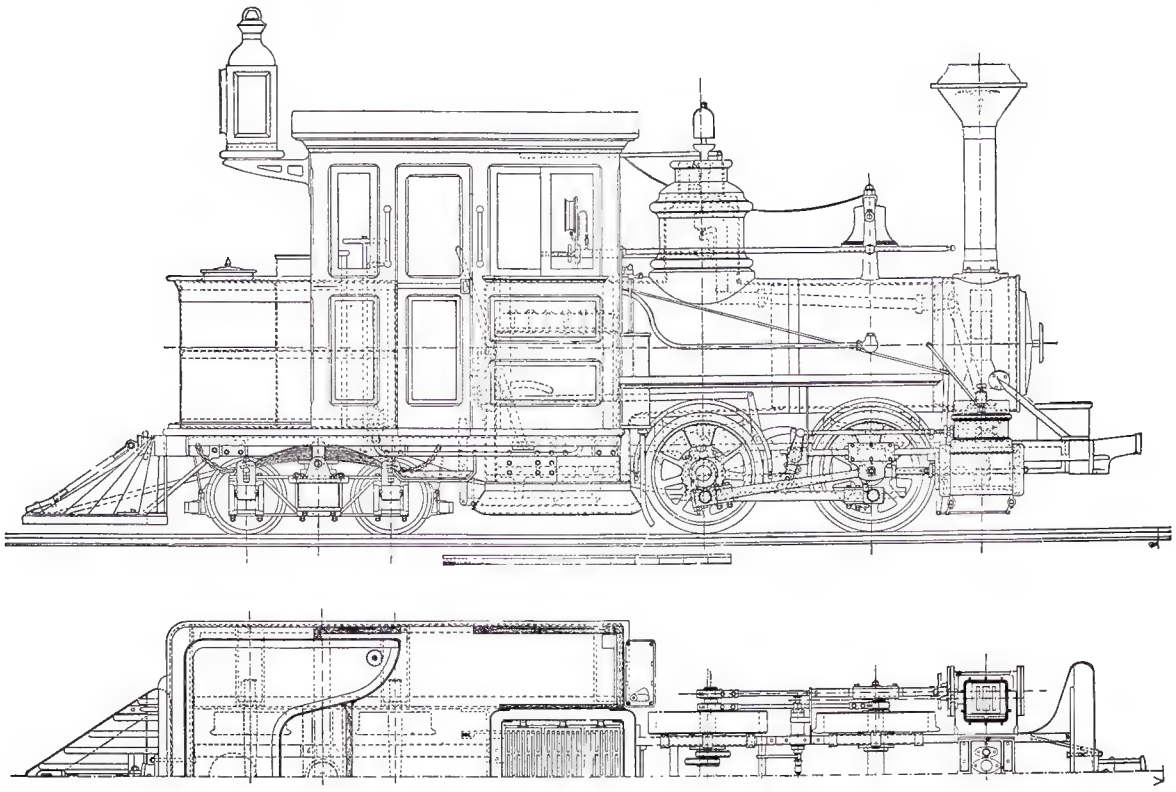
The short-lived little Billerica & Bedford RR, the first two-footer in America, was certainly one of the most charming of roads. Part of its appeal was that it embodied a brand new idea: tiny "two-feet" gauge for a railroad. Another aspect is that it reflects its era – a time when locomotives and varnished cars were personalities and had names, not numbers. The pair of tiny Forneys, ARIEL and PUCK, had equal billing. The coach was SYLVAN; the combine was FAWN – and was thus proclaimed by the name in lilting scroll script in oval shields on either side. Even the freight cars avoided numbers; they were designated "A" through "I". However they were quite straightforward rolling stock designs for the day, other than their adaptation to two-foot gauge by means of small diameter wheels and thus low-slung stance on the track. PUCK and ARIEL, however, were perhaps the first examples of the Forney patent.

My construction notes this time are about modeling one of the B&B locos in On2, and so I will start by answering a question that quickly comes up about such items in this scale. The answer is: "Twenty-four inches radius". The question is, you've guessed: "How sharp can they curve?" (Note: for passenger cars and for longer Forneys in two-foot gauge, 36 inch radius will curve it all and is a good basic minimum to adopt.)

Another answer is: "On the nose." The question is: "How do they haul cars around a curve so sharp that the tank overhangs the outer side of the track?" A practical suggestion is to go to 30 inch and haul them coupled to either end.

As we know, the B&B did run them cab ahead. But when the Sandy River RR bought all of the B&B equipment and had it shipped to Maine in 1879, the locomotives stopped off at Hinkleys to get their ends swapped. The pilots and headlamps were shifted from the tank end to the smokebox end. Sand domes were added in the same style as the steam domes, and positioned on center over the new front axles where the bells had been. The bells were then mounted on top of the sand domes. Where did the sand then get put in? Some photos just show the inconspicuous round hatch on the after face of the dome, just above the top flange ring.

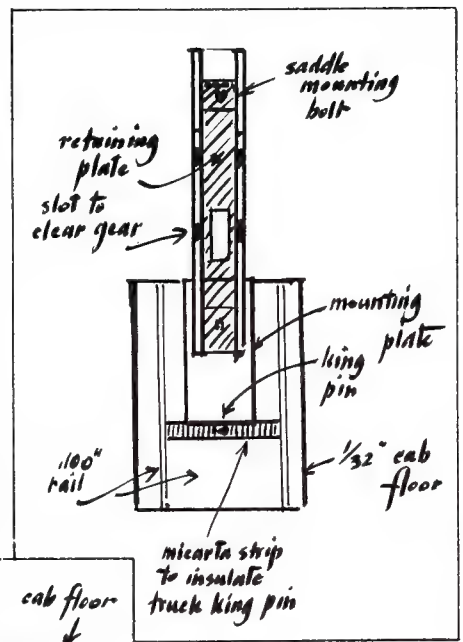
One more change was made, either at Hinkleys or not long after on the Sandy River, and that was the change of the truck to a swing motion bolster from a fixed pin mode, because the bald driver tires on the main set had been changed to a flanged type. Whether or not you model the unit as B&B – or SR – I recommend that you adopt the "all drivers flanged" mode with side-play in the truck. My On2 model, built in 1947 with this feature, has always tracked exceedingly well. However a model made in the other mode by Walt Whippo at that time had odd ways. It could fall over like a fellow with his hands stuck deep in his pants pockets who trips on his own shoe lace. The first Sandy River #3 – which the crews did not like – was set up this way and indeed one day she fell right on her side. The boys surely felt this potential in the seat of their pants.

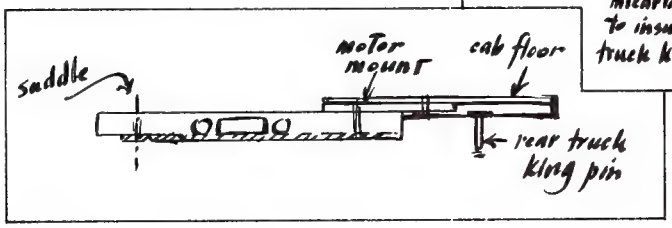


"FORNEY" TANK LOCOMOTIVE FOR THE BEDFORD & BILLERICA RAILROAD (2 ft. gauge)
PUCK – ARIEL
Built by Hinkley, 1877
Cylinders – 8" x 12"
Driver diameter – 30"
Weight – 11½ tons
Rail – 25 lb. iron
Curves – 100'r.
Sold to the Sandy River RR Co. in 1879
Scale: ¼" = 1'

Railroad Gazette, 1879

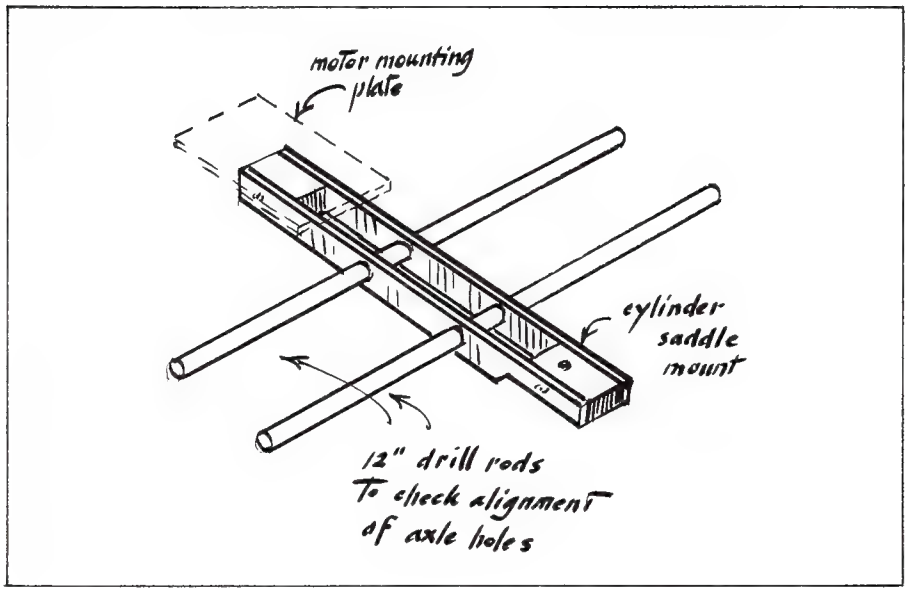
The side-play, however, should not be free and unrestricted. A very simple rig will serve the purpose. My model has a solid brass bolster on the rear truck, slotted so that the king pin (fixed to the underframe and sticking down through the slot) has play, yet bears on the slot. The higher frictional component of miniatures serves to make this damp out the wig-wags which is what the truck is for. A free moving tab letting the truck swing way out is not recommended. This isn't Lionel so there is no point in having the tank way off in outer space on curves. And the excellent tracking provided by the truck which works for 4-4-0's as well as 0-4-4T's, is a major plus. The other day I heard some old hands in On3 complain about the danger of derailments of their C-16's and various K's at high points on the layout. It made me realize that my little On2 Hinkley Forney just doesn't present that risk. She hangs on. The dampening action of the four-wheel truck is what does it.





Now for construction itself. Make two main frames from 1/16 inch half hard brass. Cut to the length shown in the plan plus more to run back inside the firebox to its far end. This will not show and gives the lap for the motor mounting plate. The frames as assembled with spacers will be ⅜ inch out to out. One brass block spacer takes the cylinder saddle and can extend forward under the pilot deck to hold the pilot beam backing piece.

Now it is an interesting thought that this part of the model is rather simple to make. It is critical – yes. But the operations are not complicated. You can put the frames together with their blocks and drill with a press for axle holes. Or it is perfectly simple to drill by hand. I have always done it that way, and so will describe it. But before leaving, remember this thought; all the time-consuming "fancy" work on super structures, etc., is so much immobile junk that rides around on your main frame. And main frames? I have several locomo-



tive projects hardly beyond that stage because it is so easy to make the frames.

To drill by hand, cut out the blanks and solder together. Drill a 1/16 inch pilot hole, slowly. Check from two or three angles on how you are holding the drill. If a little angled, compensate in drilling full size. Take the side frame blanks apart and insert spacer blocks. Insert drill rods about 12 inches long, the same diameter as the axles. If you spot a mis-alignment, move the side frames until the rods line up. Now solder in the spacer blocks. With a jeweler's saw open the axle holes so that the drive wheelsets can be put in. My strong suggestion is to angle the cuts slightly so that with some filing, you have a slight "snap" fit. It should take a slight amount of pressure to slip the axles in. If your wheels do not sit square (try a bit of mirror) relax and study it. Turn one wheelset around. Think nice thoughts. If they are still out of square, you can unsolder and true some more. Don't settle for "almost". It's worth being patient. If the frame is horribly wrong, it's only brass. Make another. When you really have it, you can tap and drill for 2/56 screws into the spacer blocks, drive in brass screws, and file them flush. Now it's locked in.

My locomotive started out with HO drivers from a Mantua "goat", which scale about 28 inch in On. Later we got Hinkley wheels from Cliff Grandt and are now to scale. Cliff plans to issue these but in the meantime such HO switcher wheels will take you along. Mantua or Tyco drivers, not being shouldered, are readily taken down from HO to On2. On2 is 7/16 inch back-to-back. Use a good square vise and suitable blocks and easy steady pressure and slide them in. Just one for the lead drivers but both on the other set to center the gear.

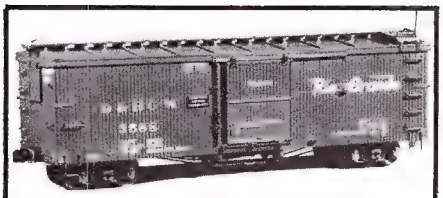
The driver axle retaining plate is 1/16 inch thick and ¼ inch wide and lies exactly inside the bottom rail of the main frame so as not to show. It is held in place at the front end by the 2/56 inch screw holding the cylinder saddle on, and by a small screw into the rear block at the back.

The side rods and the main rods are cut from German silver and before details, we come to an option. The Hinkley cylinder saddle, center to center of cylinders, is rather narrow. If you come out a full inch you will get easier clearance between cross heads and lead driver crank pins. I got stubborn – and my lead crankpin heads are paper thin. I suggest the full inch. To get the bolts in the rod ends, I found a trick. Before soldering on the thickening plates for the ends, I scratched grooves vertically in the face of the ends where the bolts would go. Then I put on the plates, and managed to get a fine drill to "find" the grooves and follow them down through the thin metal. Easy does it. Now you will have side rods with which to roll test the drivers, etc. As in anything else, there are the ones who need super-precision alignment or a complete bind, and those who can live with some slop. I am thinking of the schools of thought on alignment of ice boat runners. (The least bind and your ice boat won't go.) My school is for a bit of slop. A member of this school won a world championship and I've taken a local one or two. Do as you feel on this.

A comment is appropriate here on taking models from one gauge to another in the same scale. Yes, this unit can be made in On3 or wider. We fans tend to concentrate on certain research interests and thus easily forget that many three-foot gauge locomotives were very small and light – and also some broader gauge locomotives. The limits on this are that two-foot gauge has rarely had any locomotives with boiler barrels over four feet in diameter at heights above the railroad of over five feet to center. This means that few two-foot locomotives were larger than a D&RGW C-16 consolidation. Another problem is that two-foot gauge requires that the firebox be either over very small drivers, or behind the drivers. But, apart from those considerations, a locomotive with a given rigid wheelbase will curve pretty much the same in three-foot narrow gauge as in two-foot narrow gauge. Models of three-foot prototype locomotives have made successful On2 models and vice versa.

Next time tramways, alone and in working combinations with railroads, as well as cylinder saddle, back truck, cross heads, and pilot.

Dick



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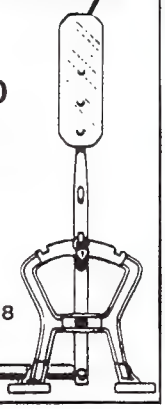

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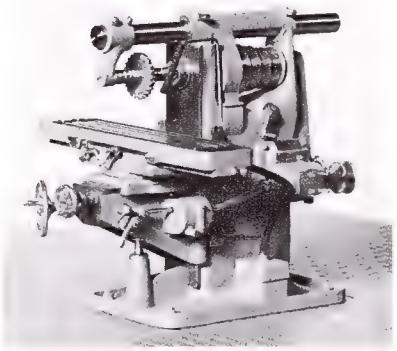

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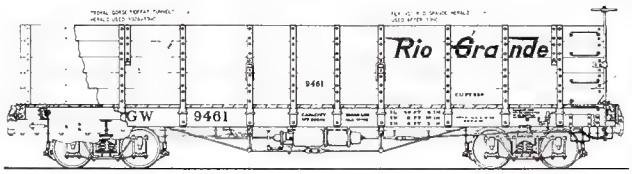

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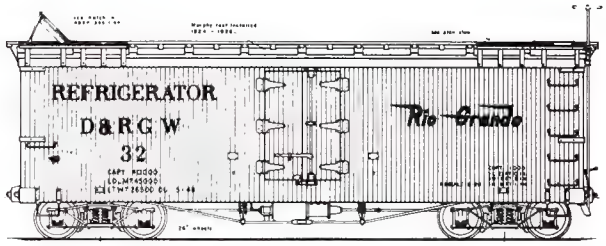

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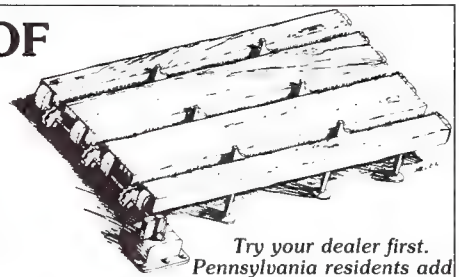

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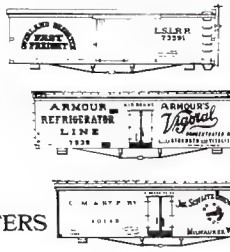

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What Is The Prototype Mix of Equipment?

by Robert E. Sloan

What we really need around here is more coal cars and fewer locos and coaches . . .

Treasurer to General Manager
of the Arkadelphia, Ultima Thule, and Pacific.

While we all claim to recreate the past in our modeling, (that's why many of us model narrow gauge) we tend to wind up with too many locos, not enough cars and the wrong mix of cars for the size and type of our empire. I know mine are wrong and so are those of all my friends. Having discovered this basic truth, I decided to do something about it. So I dug into my 1943 Official Railroad Equipment Guide, my Rio Grande rosters, and my library and came up with some data.

In the first place, the 20 or so narrow gauge roads whose equipment list I could find appear to have had five to ten miles of track per locomotive. Extra steep roads such as the Uintah, and helper districts on big roads had fewer miles per locomotive, down to three. The first conclusion is that most of our motive power belongs on the rip track, but somehow, I don't think that will happen.

On the average, passenger equipment was stocked at a rate of about one car per locomotive. On lines with more than one or two locomotives, there were usually separate freight and passenger locomotives in a ratio of about one passenger to three freight locos. Only the very biggest roads such as the D&RG *ever* had switcher locomotives purchased specifically for that job, all other roads used hand-me-down locomotives for that purpose. The mix of passenger equipment was generally about three coaches to one combine (combination coach-baggage) to one baggage (or baggage-mail etc.) The first passenger car purchased was always a coach or a combine.

While we all love cabooses, we generally need more than we have, because they are almost as much trouble to build as a locomotive because of all those fiddling little parts hanging out there. The usual proportions were one caboose to each two to four locomotives. More cabooses were not needed because they generally weren't used on passenger trains, switchers or helpers. Many a road, however, took a tired boxcar, added windows and a stove and called it a caboose or baggage car.

The number of freight cars per locomotives depends on grade and power. On steep roads such as the Uintah and the Silverton, the number of freight cars per locomotive was as low as 7. On normal grade roads, the number depends on the size of the locomotives. On the South Park and Colorado and Southern, where motive power was always small to medium, there were around 17 and 25 freight cars per locomotive respectively. On the Southern Pacific, there were about 33 freight cars per locomotive. On the early D&RG, with small cars and locomotives the figure was 33, rising to 45 in 1939 and to 52 in 1965 when the only locomotives left were the K-28's used for passenger traffic and the big K-36's and K-37's used for freight. Most other roads had from 20 to 30 freight cars per locomotive. Perhaps two-thirds of these were normally parked on sidings for loading and unloading, the rest were in trains. To translate this into HO scale, most of our roads need seven feet of cars per locomotive.

The big problem is really the proper mix of cars to fit our prototype road or the type of road appropriate to our industries. While there was a great deal of variation, it is possible to come up with rules to get a reasonable mix of cars.

The mix of cars I found very interesting. I was surprised at how many gondolas one needs to be prototypical. Fully half of all the narrow gauge traffic on the D&RG from 1870 to 1965 was coal, and when there weren't enough gondolas, they hauled the stuff in boxcars. (Now there's a way I can get out of building all those gondolas . . .) The Rio Grande was not all unusual in that respect, the only roads that didn't have lots of gondolas were oil or wood fired.

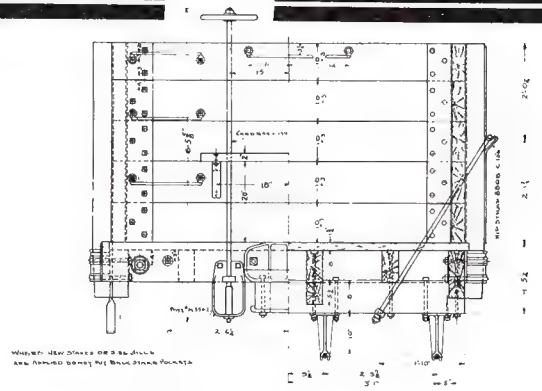
The average mix of ten cars on a general merchandise narrow gauge road would be four boxcars, three gondolas, two flats, one stock car and 1/10 of a reefer. (. . . Now let's see, if I put an ice box in the caboose . . .) Logging roads have a different mix, on the average 23 flat cars or log bunks to one boxcar and one of anything else. Straight mining roads whether coal or metal tend to have 40 ore or hopper cars to three gondolas to three flat cars to one boxcar. If you want to know what your favorite prototype had in the way of cars, take a peek at the table. Now you can guess what the Arkadelphia, Ultima Thule and Pacific really had . . . I guess what we really need is a good simple plastic gondola in HOn3.

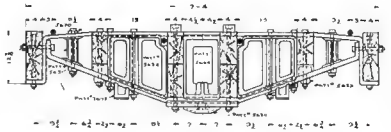
	BOXCARS	STOCKCARS	REEFERS	GONDOLAS	HOPPERS-ORECARS	FLATCARS	LOGCARS	TANKCARS	TOTAL FREIGHT	CABOOSES	LOCOMOTIVES	COACHES	COMBINES	BAGGAGE-MAIL	OTHER	TOTAL PASSENGER
Denver & Rio Grande 1887	2331	363	63	1413	–	967	–	–	5137	73	153	77	15	38	83	213
	15.2	2.4	0.4	9.2	–	6.3	–	–	33.6	0.5	–	0.5	0.1	0.2	0.5	1.4
	45.3%	7%	1.2%	27.5%	–	18.8%	–	–	–	1.4%	–	36%	7%	25%	39%	–
D&RGW 1939	742	446	60	1359	–	52	–	–	2661	25	58	39	10	19	10	78
	12.3	7.7	1.0	23.4	–	9.0	–	–	45.2	0.2	–	.67	.25	.5	–	1.3
	27.9%	16.8%	2.2%	51.1%	–	2.1%	–	–	–	0.4%	–	50%	13%	37%	–	–
D&RGW 1965	288	252	57	358	–	162	–	83	1156	10	22	19	–	2	–	21
	13.1	11.5	0.6	16.3	–	7.4	–	3.8	–	0.5	–	–	–	–	–	–
	24.9%	21.8%	1.1%	30.9%	–	14.0%	–	7.1%	–	0.8%	–	–	–	–	–	–
D&RG/D&RGW all time	3961	803	192	3111	–	2139	–	–	10206	122	294	–	–	–	–	–
	13.5	2.7	.7	10.6	–	7.3	–	–	34.7	0.4	–	–	–	–	–	–
	38.8%	7.9%	1.9%	30.5%	–	21.0%	–	–	–	–	–	–	–	–	–	–
Denver, South Park & Pacific 1889	550	9	27	329	–	322	–	–	1237	21	74	28	6	–	5	39
	7.4	0.1	0.4	4.4	–	4.4	–	–	16.7	0.3	–	.46	.08	–	.06	.52
	44.5%	0.7%	2.2%	26.6%	–	26.0%	–	–	–	1.6%	–	71.8%	15.4%	–	12.8%	–
Colorado & Southern alltime	788	120	31	734	–	99	–	–	1772	15	70	34	15	8	8	65
	11.3	1.7	0.4	10.5	–	1.4	–	–	25.3	0.2	–	.49	.21	.11	.11	.55
	44.5%	6.7%	1.7%	41.4%	–	5.6%	–	–	–	0.8%	–	52%	23%	12.3%	12.3%	–
Southern Pacific 1943	111	35	–	38	–	10	–	5	200	2	6	–	–	–	–	–
	18.5	5.8	–	6.3	–	1.6	–	.8	33	0.2	–	–	–	–	–	–
	55.5%	17.5%	–	19%	–	5%	–	2.5%	–	.8%	–	–	–	–	–	–
ET&WNC "Tweetsie" 1943	23	–	–	37	28	6	–	6	100	1	2	5	2	–	–	7
	11.5	–	–	18.5	14	3	–	3	50	0.5	–	2.5	1	–	–	3.5
	23%	–	–	37%	28%	6%	–	6%	–	.1%	–	71%	29%	–	–	–
Sumpter Valley 1943	15	43	1	–	–	181	92	1	309	–	4	–	–	–	–	–
	3.7	10.7	0.2	–	–	45.2	23.0	0.2	77.2	–	–	–	–	–	–	–
	4.8%	13.9%	0.3%	–	–	58.6%	29.8%	0.3%	–	–	–	–	–	–	–	–
Florence & Cripple Creek alltime	200	–	2	114	–	8	–	–	324	6	19	11	3	1	–	15
	10.5	–	0.1	6	–	0.4	–	–	17.0	0.3	–	.58	.15	.05	–	.79
	61.7%	–	0.6%	35.2%	–	2.4%	–	–	–	1.8%	–	73%	20%	7%	–	–
Uintah Ry alltime	18	12	–	21	–	71	–	–	122	3	18	2	2	–	1	5
	1.0	.6	–	1.2	–	3.9	–	–	6.8	.16	–	.11	.11	–	0.05	.28
	14.8%	9.8%	–	17.2%	–	58.2%	–	–	–	2.4%	–	40%	40%	–	20%	–
C&NW Black Hills alltime	3	–	–	10	75	10	–	–	98	–	5	3	2	–	–	5
	.6	–	–	2	15	2	–	–	19.6	–	–	.6	.4	–	–	1
	3%	–	–	10.2%	76.5%	10.2%	–	–	–	–	–	60%	40%	–	–	–
Mears' Silverton roads, alltime	46	–	–	10	–	–	–	–	56	2	8	2	3	1	–	6
	5.8	–	–	1.2	–	–	–	–	7.0	.25	–	.25	.37	.12	–	.75
	82.1%	–	–	17.8%	–	–	–	–	–	3.5%	–	33%	50%	16%	–	–
Nevada Co. NG alltime	107	–	–	7	–	100	19	–	233	3	11	8	3	1	–	12
	9.7	–	–	0.6	–	9.1	1.7	–	21.2	.27	–	.72	.27	.09	–	1.1
	45.9%	–	–	3%	–	42.9%	8.1%	–	–	1.2%	–	66%	25%	8%	–	–
South Pacific Coast alltime	169	–	–	–	–	435	–	–	604	7	25	65	6	6	2	79
	6.8	–	–	–	–	17.4	–	–	24.2	.28	–	2.6	.2	.2	.08	3.2
	28%	–	–	–	–	72%	–	–	–	1.2%	–	82%	7.6%	7.6%	2.5%	–
Robbins RR. Co. Wis. 1904	2	–	–	1	–	3	61	–	67	–	3	–	–	–	–	–
	.7	–	–	.3	–	1	20.3	–	22.3	–	–	–	–	–	–	–
	2.9%	–	–	1.5%	–	4%	91%	–	–	–	–	–	–	–	–	–
Pacific Coast NG	89	12	–	50	–	263	–	40	454	2	11	7	2	2	–	11
	8.1	1.1	–	4.5	–	23.9	–	3.6	41.3	.2	–	.64	.18	.18	–	1.0
	19.6%	2.6%	–	11.0%	–	57.9%	–	8.8%	–	.4%	–	64%	18%	18%	–	–
Gilpin Tram alltime	–	–	–	8	138	4	–	–	150	1	5	–	–	–	–	–
	–	–	–	1.6	27.6	.8	–	–	30.0	.2	–	–	–	–	–	–
	–	–	–	5.3%	92%	2.6%	–	–	–	.7%	–	–	–	–	–	–
Bridgton & Saco River alltime	29	–	–	–	–	43	–	2	74	1	8	4	1	2	–	7
	3.6	–	–	–	–	5.4	–	.25	9.2	.12	–	.50	.12	.25	–	.87
	39.2%	–	–	–	–	58.1%	–	2.7%	–	1.3%	–	57%	14%	28%	–	–
Sandy River alltime	106	3	–	–	–	116	121	–	344	7	20	13	3	2	–	18
	5.3	.15	–	–	–	5.8	6.0	–	17.2	.35	–	.65	.15	.1	–	.90
	30.8%	0.9%	–	–	–	33.7%	35.2%	–	–	2.0%	–	72%	17%	11%	–	–

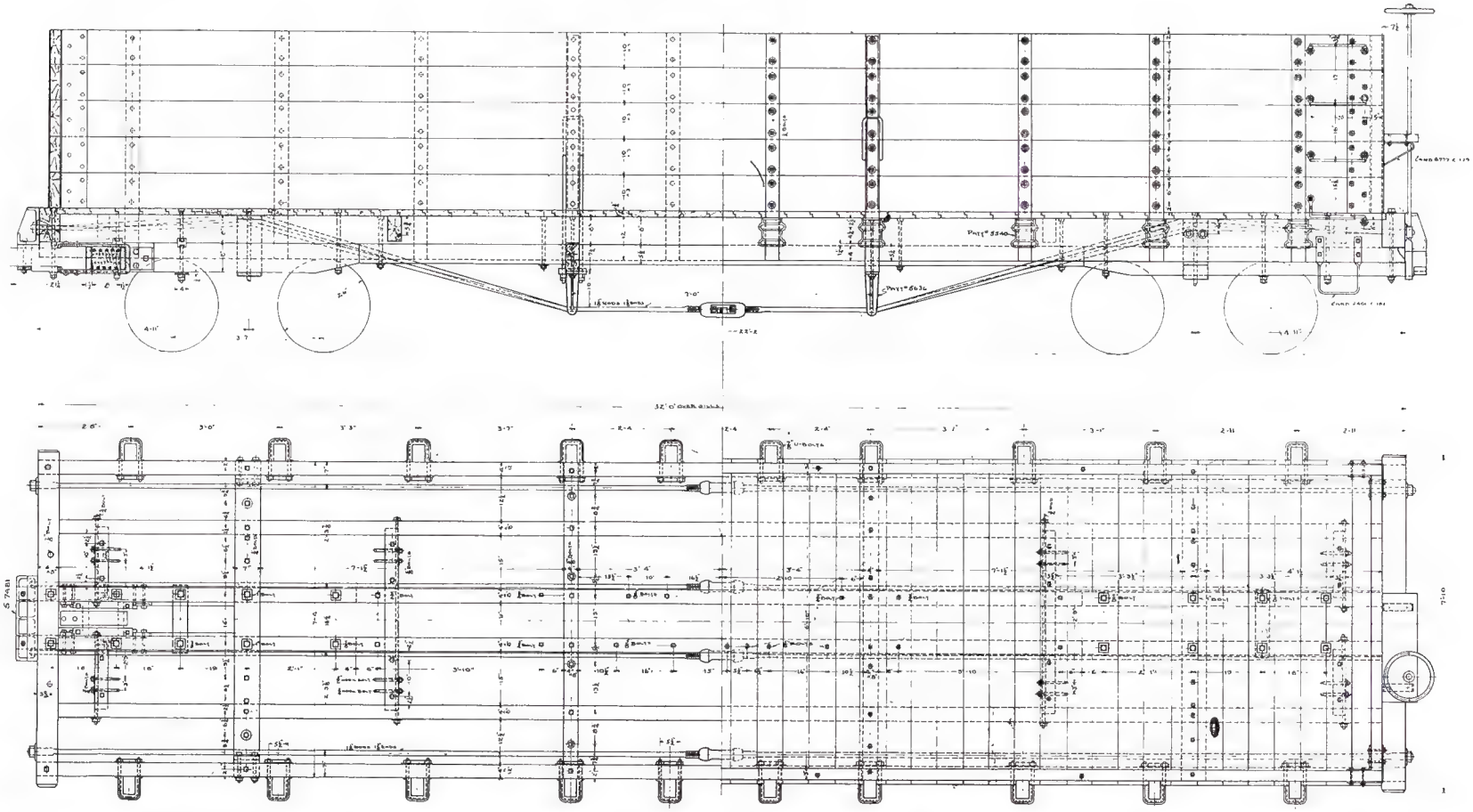
The first line of each railroad is the total number of cars of that type, the second line is the number of cars of a particular type per locomotive, while the third line is the percent of that particular type of the total freight or passenger cars.

O scale plans for remodeling of type 14 and 15 D&RGW high side gondolas in 1924. The wheelbase differs from the type 16 high side gondola. ***R.E. Sloan collection.***

Scale ¼" = 1 ft.







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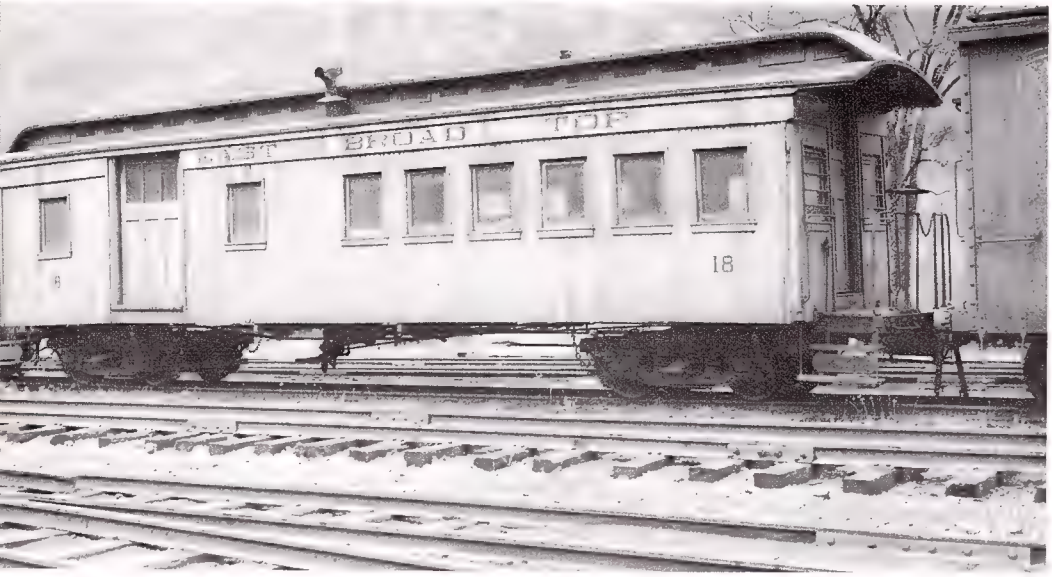
GAZETTE GALLERY

The Sierra Railroad served the West Side mill at Tuolumne, California. Sierra's #24, ex-Nevada Copper Belt #3, was captured switching near the Tuolumne Station. This fine photo won an Honorable Mention at the 1979 Calgary NMRA Convention. ***Photo by Richard Thomas.***

A number of years ago Dan Downing had custom builder, Paul Jansen, rework a Balboa HOn3 Shay to resemble the Western Pine #1. Paul stripped it down, shortened the frame and fabricated new running boards and cab. Dan applied the finish and lettering to complete a fine looking model. ***Photo by Dan Downing.***

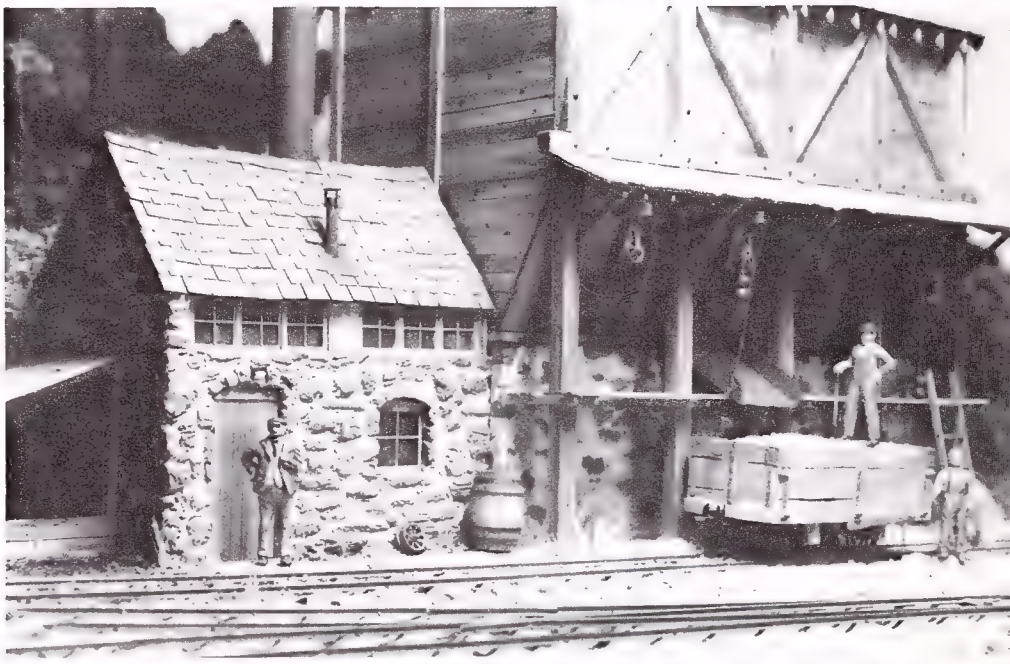
Photo Opposite: In the summer of 1959, the sands of time were running out on West Sides three-foot gauge logging show. This massive 3-truck outlived its owner to see operation on a tourist line near Yosemite National Park. ***Photo by Richard Thomas.***



M.D. McCarter sent in these equipment shots from a 1947 trip to the East Broad Top. The heritage of these two passenger cars is unknown. The #29 baggage car may have come from the Boston, Revere Beach & Lynn. The combine is interesting in that it lacks a continuous belt rail under the coach windows. The EBT is in need of a definitive book to help unravel some of its lore. ***Photos by M.D. McCarter.***

The Walnut Creek Model Railroad Society recently held an open house for their fine HO and HOn3 layout. One area of interest is the narrow gauge yard at Thompson Flat. Many clubs such as this across the country feature extensive narrow gauge trackage and can provide you with an opportunity to share your interests and run your equipment. ***Photo by David Tateosian.***

The turntable at Como appears to have a few customers waiting. This scene is from Dale Fleming's South Park Line which was featured in the November/December 1978 **GAZETTE**. *Photo by Dale Fleming.*



Jerrold R. Kinney has an interest in Welsh narrow gauge. He has developed the Mineral Valley Tramway, a 2 foot 4½ inch gauge set in the 1920's, in O scale. One of the road's mineral wagons is shown being loaded with stone at the crusher-bunker. *Photo by Jerrold R. Kinney.*

The Squire appears to be having a word with the engine driver. Ground cover was made from Woodland Scenics foam products. *Photo by Jerrold R. Kinney.*

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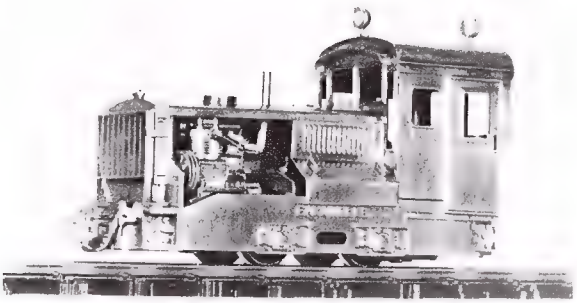

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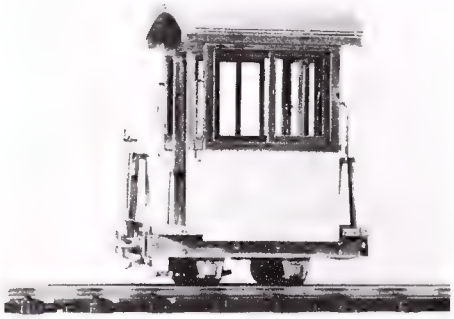

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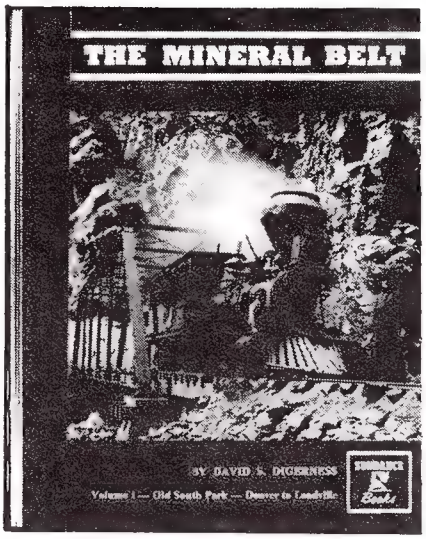
THE MINERAL BELT

By David S. Digerness and the Editorial Staff of Sundance Publications, Ltd.



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Book Reviews

Rails that Climb
by Edward T. Bollinger
Colorado Railroad Museum

The Colorado Railroad Museum has re-issued a new edition of one of its monumental books on western railroading. *Rails that Climb* covers the Moffat Road. Over seventy-five years ago the first train of the Denver, Northwestern & Pacific Railway ran up this line. The same route today is the Moffat Tunnel route of the standard gauge Denver & Rio Grande Western Railroad. During its history this line was also reorganized into the Denver & Salt Lake. This book is big. It is 328 pages long and has hundreds of photos. There is a reprint of a DNW&P timetable from 1911 and one from 1904. A detailed map of all the various routes and grade profiles is also provided. These reprints and maps are separately provided in a pocket glued inside the back cover of the book. There is a small sized caboose plan in the book. The bulk of *Rails that Climb* is on standard gauge railroading. There are many photos of classic locomotives, wooden rolling stock, and western yards and other facilities. There are many snowplow shots and photos showing the mines and towns along the route of this line. Hidden in and among the photos are several short lines such as the narrow gauge electric Denver & Northwestern narrow gauge line which was used for hauling coal. The book is divided into 30 chapters and a detailed index is provided. There is an extensive and detailed text. For those of you who are interested in this kind of railroading, and who isn't, be sure you look into this beautiful book. It sells for $24.95. *Bob Brown.*

The Sierra Railroad & Railroading West
Darwin Publications

Darwin Publications, Box 5429, Sherman Oaks, California 91413 has issued two reprints of earlier published western railroad books. The first is called *Railroading West, a Contemporary Glimpse* and is a beautiful look at modern day western railroading. There are photos of diesels and electric lines such as the Burlington, Santa Fe, and Milwaukee. The book is beautifully printed and is soft bound with 80 pages. It was originally published by Ron Hill and Jeff Brouws in 1975.

The second book is a reprint of a 15 page magazine-sized booklet first published by the Sierra Railroad Company. The title of this book is *The Sierra Railroad, An Adventure in Yesterday*. It gives a brief written and photographic overview of the Sierra Railroad. All of the photographs were taken after the passenger end of the line became a tourist attraction. There is a map of the railroad and a track plan of the Jamestown yard. These books are both well done and worth getting. *Bob Brown.*

West Side Book
by Mallory Hope Ferrell
Pacific Fast Mail

The West Side Lumber Company is my favorite logging railroad and this partisanship is reflected strongly in my On3 Tuolumne Forks line. As a young man I spent many weekends getting to know the West Side narrow gauge operation. I walked its iron, smelled its smells and photographed and measured its equipment right until the end. *West Side, Narrow Gauge in the Sierra* is a monument to my favorite line and I thank Mallory Hope Ferrell and PFM for providing this book to the hobby.

The book is big and sells for $29.50. It has 320 pages printed on heavy quality paper. There are over 400 black and white and sepia tone photographs. The list of contributors reads like a Who's Who of railroad photographers. There are photographs by John S. Anderson, Richard Kindig, Richard Steineimer, and Donald Duke to mention a few. Many of the photographs have been published before. However, there are many new views and I find it helpful to have them in one place and organized for me. The book has 16 pages of color and features color paintings by Howard Fogg, Jim Finnell, and Mike Pearsall. There are complete locomotive and car rosters. The car rosters are unusually detailed. There are beautiful scale equipment drawings from the California Short Line Historical Society of a 24-foot flat car, a Swayne log car, a type III skeleton car, tank car #2, parts car #143, a wood block car, a four wheel dump car, a sand & gravel car, four different freight car trucks, and a short caboose. All of these plans are printed in 3/16 inch scale and are correct for Sn3. The rolling stock chapter is divided into type of car and is presented in such a way that each car has a plan and corresponding photos for that type of car.

The book is divided into 12 chapters. The first three are devoted to the early years. There is a chapter on the Pickering ownership. The rest of the chapters are devoted to special topics such as night-time Shay photographs, the town of Tuolumne, the cars and locomotives, and the tourist operations at Tuolumnne and Felton. The locomotive chapter is very complete. This is a must purchase book for anyone interested in narrow gauge, logging, Shays, or the Sierras. Don't miss it. *Bob Brown.*

Early Tools and Equipment
Applied Arts Publishers
Box 749
Lebanon, PA 17042

Applied Arts Publishers has a series of soft-bound books of great interest. *Early Tools* is typical of the series. This 32-page booklet is loaded with black and white photos of various tools — great source material for modelers. Other titles include farmsteads, coal mines, Pennsylvania logging, early furniture, and iron ware. These are excellent research books for any modeler, and quite affordable at $2 each. Write to Applied Arts for a catalog sheet. *Charlie Getz*

Notable Locomotives of 1906
Locomotive Workshop
RFD 1, Box 211-B-1
Englishtown, NJ 07726

The Locomotive Workshop has been producing basic photoengraved body parts for locomotives and cars for many years. They are now offering a soft bound 8½ by 11 inch book consisting of four sets of reprints from the 1906 *American Engineer and Railroad Journal*. These reprints consist of technical information and plans covering new developments in locomotive engineering in 1906. Most of the material is on class one lines but there is a plan for a McKeen Rail Car. The plans are for the most part reproduced in HO scale. This book should appeal to you if you are into very detailed and technical railroad drawings and are interested in the early technical development of the steam locomotive. The book sells for $9.00. There will only be 500 copies printed. *Bob Brown.*

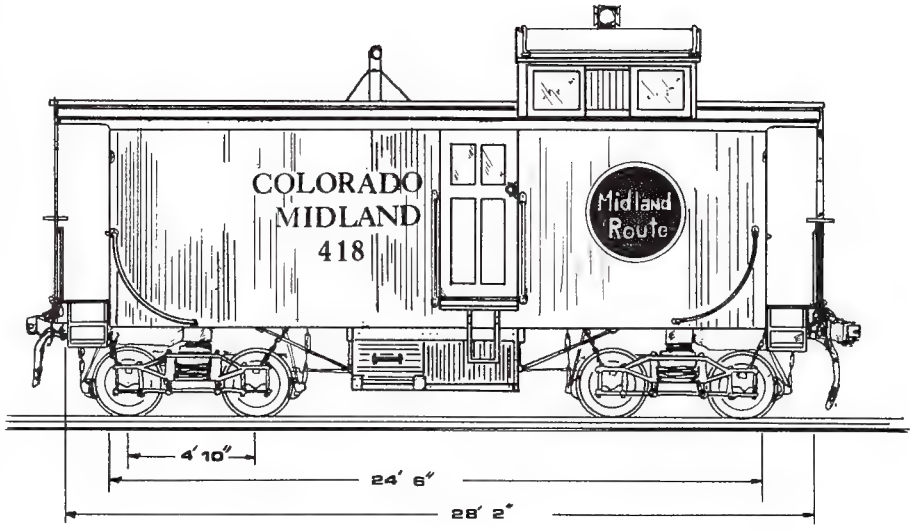
The SHORT Colorado Midland Cabooses

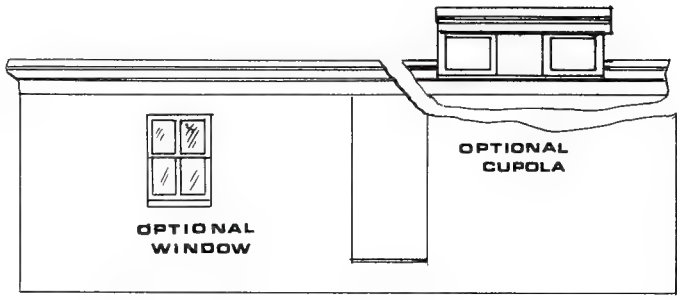
by Mel McFarland

The Colorado Midland owned a total of 29 cabooses, numbered 401-429. The original order from St. Charles Car Company was numbered 401-416 and delivered in 1887. The second order of eight was delivered in 1890, numbered 417-424. A third group was built in the Colorado Midland's own shops in 1901 and numbered 425-429.

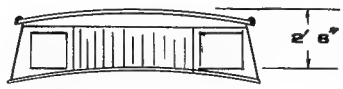
The first cars were 34 feet long with side doors and two side windows. The second batch had side doors, and some only had one side window while others had none. As the cars were rebuilt the numbers were often interchanged. A car going into service received the number of a car going out of service. In addition, the long cars were often shortened, end platforms were removed, and windows were occasionally deleted.

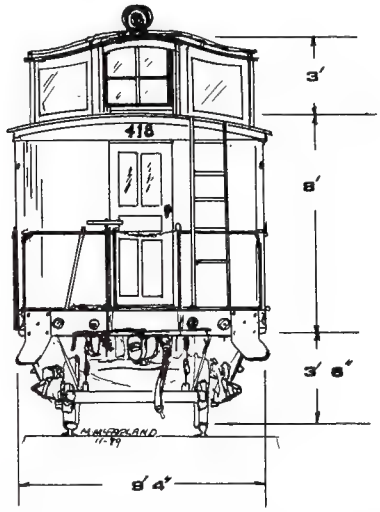
The best known Colorado Midland caboose is #409, the lone large side door car in the original order. The plans for it were in the July, 1966 **MODEL RAILROADER**. Model Engineering Works imported 500 brass versions and Model Die Casting has a plastic model of it (neither particularly noted as #409). Caboose 418, as well as the others in the class can be built using MDC narrow side door caboose bodies. Evergreen scribed siding can be used to cover the cut lines and the window openings. The more standard cupola can be modified into the cupola which was installed in a 1916 rebuilding. These cars were destroyed or sold in 1920 when the railroad was scrapped.





Drawing by Mel McFarland
Scale: 3.5mm = 1 foot

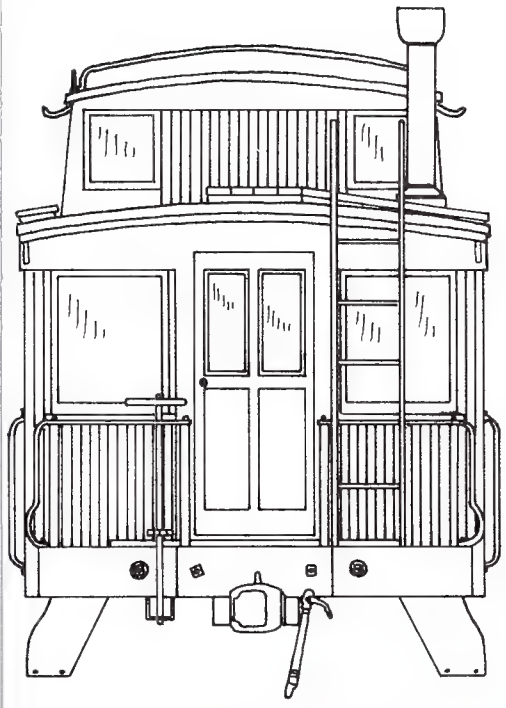




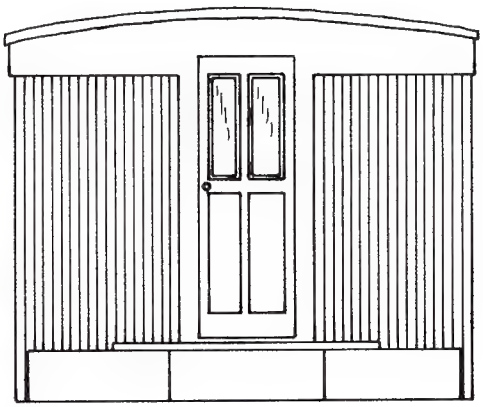
Caboose #418 in freshly rebuilt condition in the Basalt yards in 1917. The single side window and curved cupola were deleted. *Photo, collection of D.H. Gerbaz.*

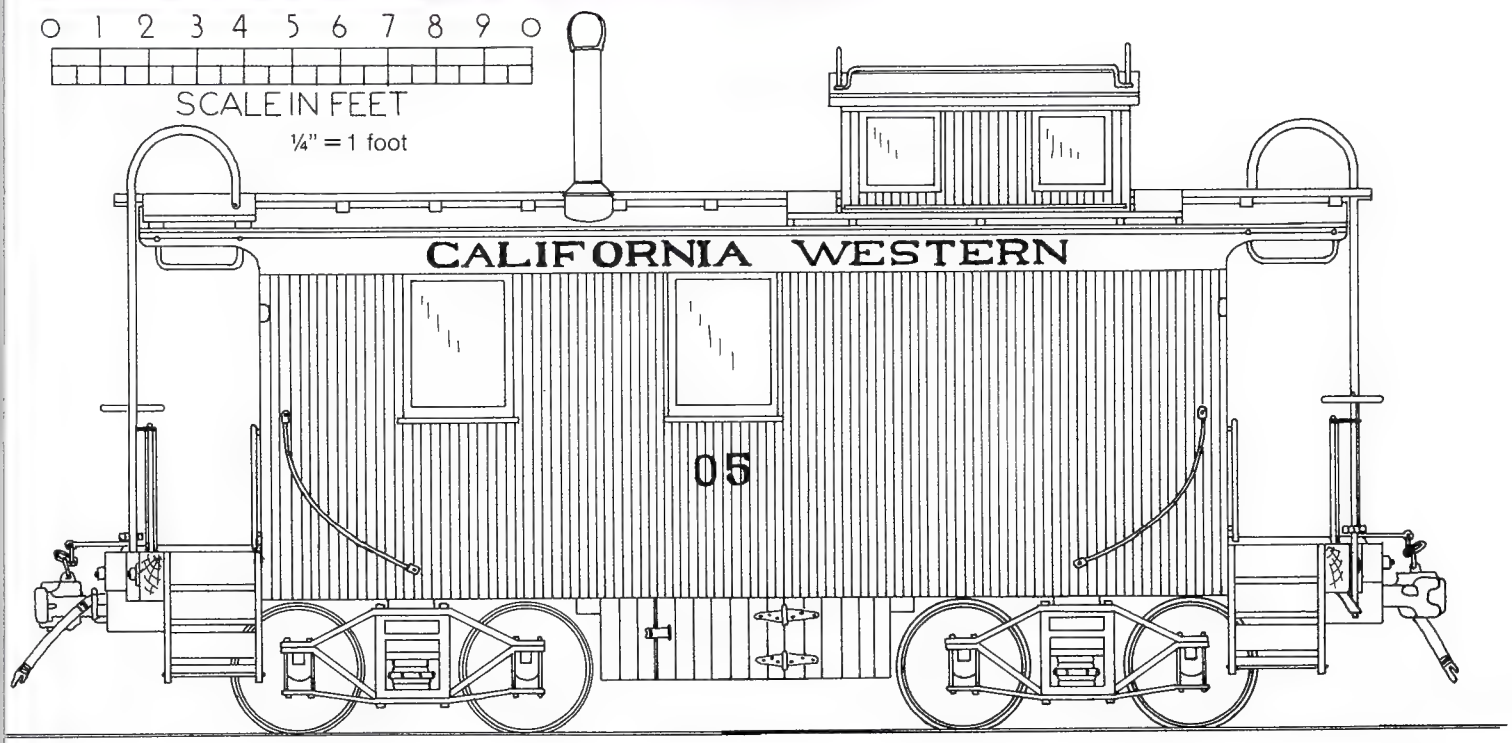
CALIFORNIA WESTERN CABOOSE #05

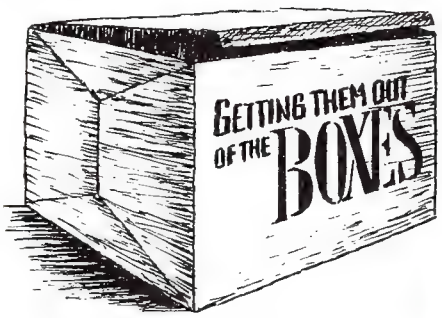
Drawn by Al Graves



This caboose was built at the Fort Bragg, California shops. It was copied from the #06 caboose which was purchased from the El Paso and Southwestern. Number 05 was built some time in 1923 or 1924. These photographs were taken by Al Graves at Fort Bragg in 1939.

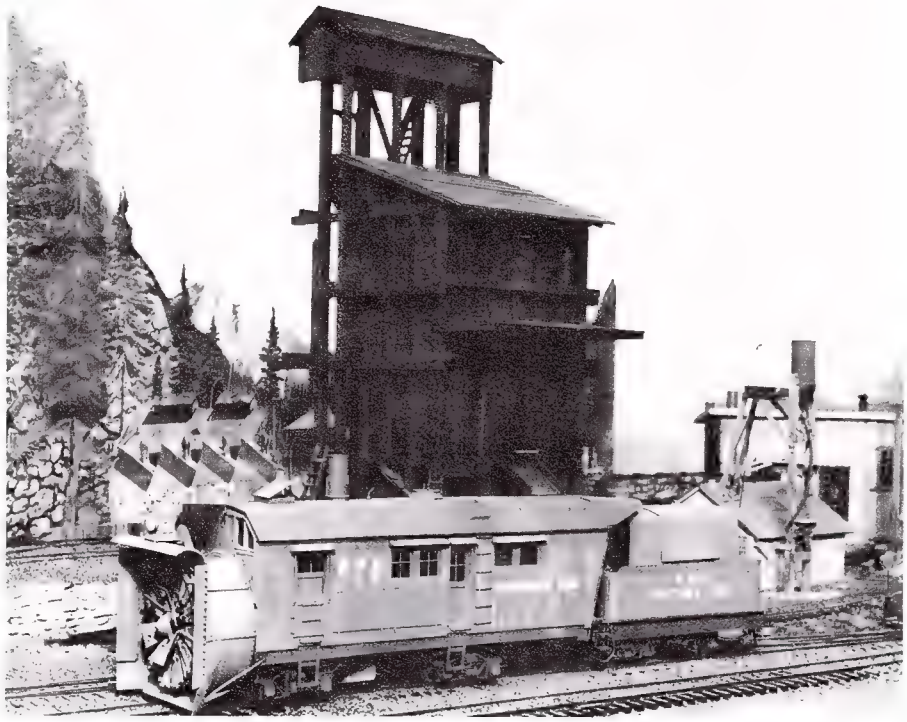






Building the Durango Press RGS Rotary #2

by John M. Koch



The completed Durango Press On3 Rotary snow plow being coaled on the author's layout. The San Juan Engineering coaling tower will be featured in a future issue of the **GAZETTE**.

If you're like most railroaders I know, the first thing you did with your Durango Press RGS Rotary was open up the box, glance at the horrendous number of parts, look at a few pictures on the instruction sheet and close up the box thinking, "Someday I'll build that if I ever find time". Don't let the number of parts scare you. Yes, there are a lot, but I've found out that the best way to break down construction of a kit this size and magnitude is to sort out the parts into various projects. I first decided that all the white-metal castings should be sorted out as to type and appearance. I did not compare them to the parts list; I hoped that all of the parts would be there. Anyway, I wasn't able to determine what some of the small parts were and to try to compare them to the parts list would have been impossible until I got to the part of the instructions that described the part or showed a picture of it. So, the first thing I did was to take all of the parts and put them in small egg-carton type containers. Parts such as truck parts were obvious and those were sorted out accordingly. The same for frame parts which are shown on the exploded frame assembly on page three of the instructions. Then there are the many small parts such as hangers, hinges, rivets, nut bolt washers, and many of the parts that make up the flanger operating assembly on the front truck. These are quite small parts and you will note from the side view on page two of the plan sheet, they are not all shown. My photographs of the front truck underview also do not highlight *that* detail mainly because the parts are too small. You will have to do as I did, look at the side view and "guesstimate" which parts go where. On page four of the truck assembly, there is an exploded view showing some of those parts and that will be helpful.

Frame Assembly

The frame assembly is straight forward, but you've got to watch out for some problems such as I ran into. All the parts should be cleaned of flash first. All the cross braces, channel and I-beam assembly should be test-fitted before gluing. This means that you're going to have to try to juggle the entire sub-assembly on a flat surface. The reason you must check these out is to make sure that you do not have to file off any material on the frame cross braces. I assembled my frame cross braces to the channels and I-beams with Hot Stuff and then added the shroud support and flanger support plates. Then I found that the frame was too wide and the shroud supports and flanger support plates would not fit satisfactorily. Then tragedy struck; I found I had assembled the frame cross braces upside-down! It seems as if that would be a difficult thing to do, but I did it. So, very gingerly, I had to break each of the joints with a fine nosed plier without bending the metal. I was able to get it all apart. Then I had to not only file down the small protrusions on the frame cross-braces, but also the main part of those braces so that everything eventually fit tightly and the spacing was correct. This was the roughest part of the entire kit and it bears watching closely. Before you attach the strap steps, build your side walls. After you get the sides attached to the frame, put the steps on. Otherwise you will find, as I did, that the drawings are not exact and the steps do not match up exactly with the doors after you get the side walls complete. In addition, you are constantly bumping those strap steps and bending them. They will eventually break off if you're not careful.

I guess there is only one source of irritation in the kit that I want to comment on: there are no pipe unions provided. The drawing and article makes a comment about this. I felt that, given the price of the kit, the very small additional cost of pipe unions would have been minimal. I opted for brass unions from Tomalco and put on all of the underbody detail shown on the bottom plan view sheet number two.

The next step is to glue in the floor board assemblies. I found it was easier to color the stripwood in advance – I use a shoe dye alcohol for coloring the wood. Don't forget to paint the frame before you insert the wood so that the wood looks weathered. I painted the frame a grimy black with a drop or two of white added to give it a weathered appearance.

I followed the instructions on assembling the flanger blades. The instructions are absolutely correct. They state, "We suggest you hold off attaching the flanger until the model is completed." This is important, because you will need to adjust the height of that flanger to the trucks and

allow clearance above your turnouts. My photo showing the underbody detail will give you an indication of where some of the parts fit and how the individually colored boards look once they have been added onto the pre-painted frame. If you're planning on attaching the hose assemblies between the tender and rotary, note what I did in the photo showing the tender underbody view. The pipe that runs along the underframe and goes to the tender makes an "S" at the rear of the rotary. I attached it both with the pipe brackets and a small U-shaped piece of wire just prior to where it leaves the rotary. The U-shaped piece of wire was attached by drilling two #80 holes into the frame and pushing the wire over the pipe. Then some Hot Stuff was added to secure it. There is enough push and pull on the piping when it is coupled to the rotary to work this loose if you do not fasten it just before it leaves the rotary. Also note the coupling between the rotary and tender. In order for the rotary to easily go around 36 or 40 inch radius curves or through #6 switches, it is necessary to file the tang slightly on each side so that The Rotary will bend around a sharper curve. This will allow more freedom for the tang to move.

Shroud Assembly

I found no difficulty in assembling the shroud or the rotor. The instructions are well done, the exploded views help considerably. I did have some problems later on when the rotary was completed, with the lower side doors (shown on the exploded view of the shroud assembly) scraping some high points on the sides of the track. This rotary is wide! It takes up more than a full standard O-scale clearance so you may have to raise up the lower side doors slightly over what they are shown on the plan sheet side view #2. Although the plan sheet shows them at a scale clearance above the rail, my suggestion is to raise them another 1/16 of an inch. Since mine are already permanently attached, I'm going to have to file them down slightly. This is probably O.K. anyway, as I'm sure they got mangled, bent and worn down on the prototype as well. At this point, I suggest assembling the truck before the rotor and shroud are attached. My suggestion for doing this is that if you assemble the shroud and rotor and fasten it to the frame, you may not know how high to fasten it on the shroud support assembly on the frame. As a result, you may get it too low or too high. Therefore, I assembled the trucks first, attached them to the frame and attached the shroud support and rotor assembly.

Since I'm planning on making my rotary operative at some future date, I changed the method of mounting the rotor shaft. I did utilize the bearing block that comes with the kit, but I drilled both the block and the front bearing out after the entire shroud support was assembled, to accomodate some bronze bearings at both the front of the bearing block and the front of the shroud support. This gives you a good bearing surface at two points. The rotor shaft was then tested to make sure it turned freely, before it was assembled into the rotors themselves.

A rear view of the Rotary. Notice the roof texture and the unusual shroud on the tender.

The first bearing is actually attached to the back of the shroud assembly and penetrates into the shroud support. The second bearing is attached, with Hot Stuff, to the bearing block itself. This was not as difficult as it sounds, the holes are already there, just drill through with an undersized drill, make sure that hole is straight and true, and then oversize drill for the bearings themselves. Before securing the bearings with Hot Stuff, put the rotor shaft in place, make sure it turns freely, and very delicately drop some Hot Stuff with a pin on to the bearings themselves without getting Hot Stuff on the rotor shaft and bearing. If you do your bearing and rotor shaft will be sealed together forever.

Truck Assembly

The truck assembly is straightforward but very time consuming. In fact to attach all of the levers on the front truck and assemble the rear truck took two evenings. There are a lot of small parts, and they must be drilled out with very small drills and attached with wire. I did find that the holes for holding the wire to the front bar assembly required a drill longer than I had available. The holes must be drilled extremely close to the front bar, and even with a pin-vise, you cannot drill more than two holes at a time. This requires you to drill the first two holes, and then come in from the other side and drill the other two holes in the front bar. And, of course, the holes won't line up exactly. So the wire goes through as a "snake" – not exactly straight. Short of finding a very long drill that would allow you to drill all the way through in one shot, I don't know how to resolve this problem. Maybe someone else can come up with a better idea. Drilling the small holes in the levers is also a problem, mainly because the levers are so small. I almost decided to omit this detail from the truck but, resisting temptation, I decided to go ahead with it. The results make it worthwhile.

Side Wall Construction

I followed the template exactly in constructing the side walls. I did not have enough wood and had some difficulty locating the exact sizes of wood shown in the kit. As a result I ended up cutting some of my own on a Dremel table saw. At this point, you need to check the castings very closely to make sure they fit the window openings. It was a fit and cut system. If you try to build the frame exactly as is from the templates and then try to fit the windows you will do a lot of sanding and filling. I found it much easier to fit the frame around the windows on a go-as-you-can basis. This is especially true in the front wall. If you try to build the frame on the template and then fit the windows, they won't fit. You must build the frame around the windows on the front wall or it will not work. This also holds true for the rear wall. The rear walls are a rather flimsy assembly until you get the windows in. In addition I

constantly fitted the front and rear walls to the side walls to make sure the over-hang of those front and rear sections was in matching with each other and when looking down the length of the rotary the parts do not have a twist in them. Laying a piece of strip wood *across* the two assemblies when they are test fitted in place will give you an indication if they are too high or too low. The strip work should obviously run parallel with the side wall and not go up or down as it travels from the rear wall piece to the front wall piece. Using the templates that come with the kit helps tremendously in getting the cuts exactly the right shape. Follow these templates as close as possible; they are a great aid.

After the entire side and rear walls were assembled, I sprayed them with a mixture of box car red with some white added. I used Floquil for this and also used Floquil Depot Olive for the interior. Then I went over this with a very light spray of grimy black on the interior to weather it up. At this point, I would suggest lettering the sides. I had a problem and some of you sharp eyed readers will note it in the lettering of the side of the rotary itself. For some reason the decals supplied were almost totally resistant to the decal solvent I was using. They would not lay in and the sheen would not disappear. I eventually solved this problem by going to Champ decal solvent when I did the tender. But I'm going to have to redo the lettering on the side of the rotary. I tried to cover up the sheen somewhat by weathering a bit between the letters as if the letters had been repainted over a weathered finish. But I was not entirely successful. You might note that when I went to the tender and lettered it, the Champ decal solvent really dug in. Someone asked why didn't I put the Champ decal solvent on later on the sides, but I had already sprayed a dull coat cover over it and the champ decal solvent would not penetrate the dull-coat.

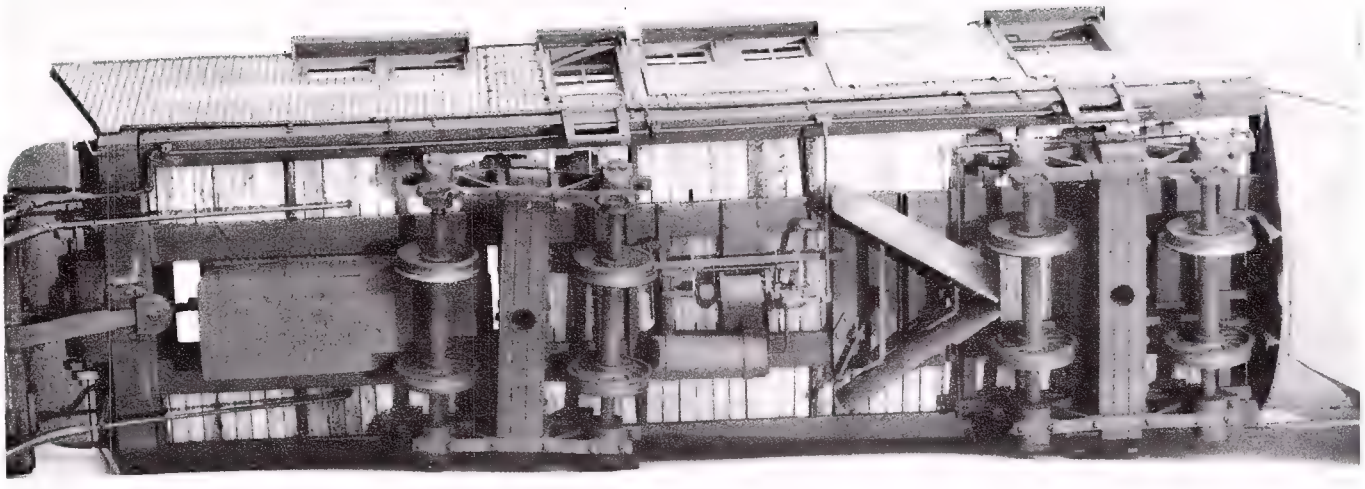
At this point I added the headlight. I wanted a working headlight, and in checking the pictures I had available to me, I noticed a small conduit running along the side of the shroud into the cab of the rotary. Since you need two wires for a headlight, I ran a conduit on each side. Unless you view each side at the same time "quite a feat" you cannot tell that there are two conduits. They lead into the cab of the rotary and terminate there for the time being until I mount some kind of lighting system. My hope is that I will add a battery to run the small 1.5 volt bulb and this battery should keep it running for quite some time. I also will probably have another battery to run a small can motor which will turn the rotary blade. These batteries will be the rechargeable type and since neither the rotary nor the headlight are run that frequently, I don't expect the batteries to need recharging very frequently.

Roof Plan

You will find, as I did, that the plastic bracing for the roof does not quite fit the profile of the front and rear wall cabs. So the next step is to hold one of the roof braces against your front and rear wall assemblies and sand down using an emery board to match the roof template. This way when you finally assemble your roof it will fit very snugly on top of the front, cab and rear walls.

If you follow the instructions on assembly of the roof you should have no problems. Please note the item regarding the assembly of the fireman's hood. Use the template and make sure it fits exactly before you transfer the template to the piece of plastic from which the hood will be made. Also note the instructions about bending on dotted lines "do not bend all the way to the edge". If you will look at the photos of mine, you will note that the sharp bend starts at the rotary and as it works its way toward the tender it becomes

Remember that the Rotary had a steam boiler inside that massive body. Here is a photo of the backhead and fire box door.



The Rotary underbody showing the standard gauge trucks with narrow gauge wheelsets. The great detail in this kit is evident in the photo.

round and the sharp edge disappears. Watch out though, if you score and bend that plastic too much it will break. I had one side do that and I had to end up filling it in with a little bit of 5 minute epoxy and then sanding it back down again. This is one of those touch-and-go situations. I made my roof removable as outlined in the instructions, but not for showing off of the interior but rather for access to the mechanisms for the rotary and batteries.

Tender

Start with the tender frame assembly first. I will warn you now, that I had trouble with the heights between the tender and the rotary. You might want to check this after you get the frame finished on the tender and have the trucks installed underneath it as well. You will probably have to adjust the height as well as the distance the coupling is mounted from the front of the tender before you finally glue the coupler box to the tender. The tender trucks were easily assembled following the instructions. I did not have sufficient numbers of journal box covers; I wrote Durango Press and practically by return mail received the number I needed.

I made my coal doors work. This is very easy following the instructions. The forming of the coal cover of styrene looks flimsy, but the cover braces, Hot-stuffed to the interior, brace it sufficiently.

I utilized a carbon-electrode unit to solder the tender top to the tender shell. This took a bit of time, but frankly, it is not as difficult as it looks. Just work your way around with a tool of this type, beading small blobs of solder all the way around. Then finally smooth it out starting from the water access area at the front of the tender all the way around to the back and then back to the front of the tender again.

In one of the drawings you will note that the tender-stay is attached to the front of the tender itself; this holds the tender to the floor. When I ran the rotary for the first time the firemen's plate that extends between the rotary and the tender kept catching on the stay on #6 switches. I finally had to remove the bottom of the stay entirely. This is the only way this rotary, coupled as shown, will go through a #6 switch. You may want to lengthen the draw-bar if you plan on going around curves sharper than 36 inches or switches sharper than #6.

I made the connecting hoses between the tender and the rotary from the wire insulation recommended. It works well. There is a little lack of clarity as to the various valves and fittings that need to be attached between the rotary and the tender. The photos show how they were attached, and the side plan view also shows them reasonably well. The hoses and couplings add considerably to the overall appearance. Although in the prototype the re-railers are hung on the brackets of the rotary, I hot-stuffed mine on so that they would not get lost.

Other Points of Interest

The gauge on the rear of the cab looked rather blank just being painted, so I carefully cut out the dial on the side view plans which also shows a drawing of the rear of the cab. I glued this into the gauge and it looked much better.

Last but not least I attached the flanger assembly. Somehow, through operations, it has dropped slightly and snags itself on the turn-outs. The method of attaching it leaves it dangling with very little support. I haven't yet worked on this to resolve this problem, but you might be aware of it when you attach the flanger and make it as sturdy as possible. If it hangs up and you are pushing it rather fast, you might tear out the entire assembly underneath.

The entire unit weighs a lot. You can get an idea just by lifting the box full of parts. But, when pushed by an engine or a train of two or three locomotives, it has a beautiful appearance. Because of the weight, the rotary actually creaks and groans like the prototype did I'm sure. A very slow speed looks the best, running at 50 or 60 miles an hour looks rather ridiculous.

As I stated earlier in this article, the rotary is huge. Please leave clearances on switch stands, beginnings of grades, sides of buildings, etc. or, you will find that this machine just either takes the building with it or tears off the front of the shroud assembly. This is an O-scale standard gauge unit.

The ideal set-up for the future of this rotary will be to have the blade turning very slowly, smoke pouring from the stack, "as it does in the prototype", and a modeltronics sound system timed with the rotation of the blade to give the impression that your unit is really working hard. I believe this is all possible utilizing some rechargeable batteries, and one or two can motors.

I filled my tender with some coal available commercially, dropped in some thinned white glue, and lo and behold a tender that looks right. Lift up the hatch and there is the coal. One of the photos shows the tender, loaded, with the hatch door open and a view of the rear of the cab showing the dial cut from the plans. This view also shows the detail on the rear of the cab. It must have been quite a chore for the firemen in the middle of the winter working in this environment. Many of you sharp-eyed modelers will note that I have not added any cab curtains. I plan on doing this one of these days.

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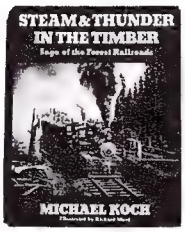

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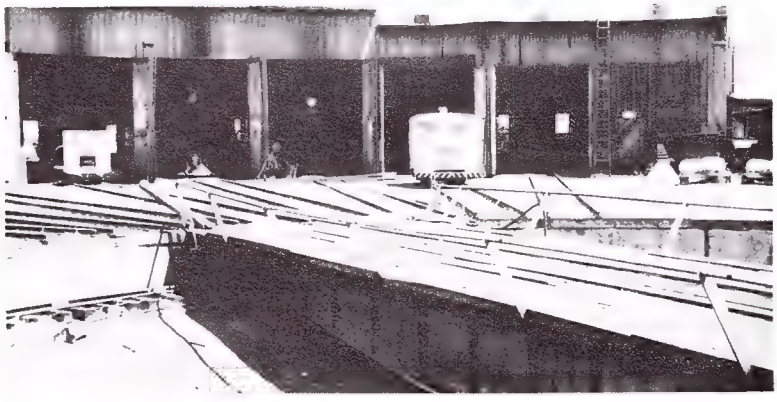

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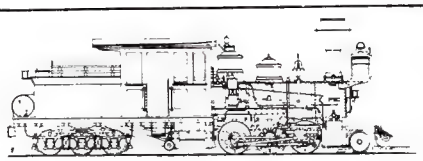

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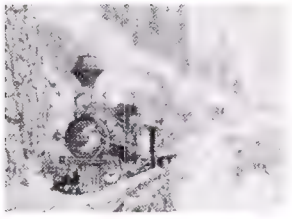

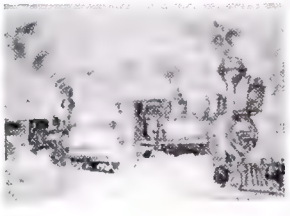

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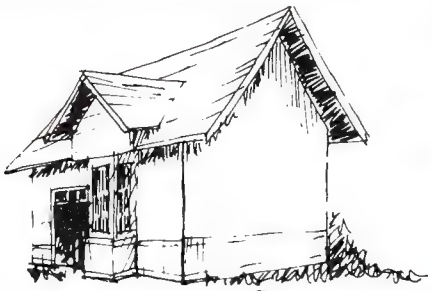

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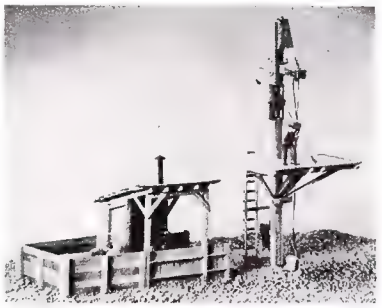

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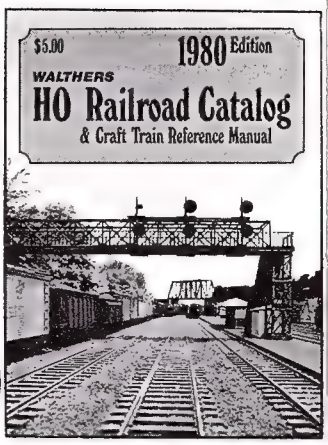

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Durango Press RGS Rotary Plow	184
Durango Press Silver Plume Store	34
Durango Press D&RGW Derrick Car OP	96
Whistle Stop D&RGW RGS Round Roof Water Tank, Urethane	41
Crossing Gate Hi-Side Gondola D&RGW On3	30.50
Precision On3 Flex-Track Code 83 120 ft.	122
Grandt Drop Bottom Gondola D&RGW On3	30
Muir Models Tenopah Silver Mine	53
Evergreen Hill 30's Gas Station	33

Precision Scale Co.

D&RGW On3 Vestibule Coach (closed) #319	136
D&RGW K-37 2-8-2 On3 Kit	590
42 Ton Climax Kit On3	365
ACF 70 ton cvrd hopper 10 wkg inlet drs	82
Silver City Shay Kit On3/On2	275
Baldwin 2-8-0 Kit Kodama SP C-6 or Ma & Pa SPECIAL SALE!	390
SP TW-8 scale Kit Special Sale!	400

Custom Brass

Uintah #50 & 51 2-6-6-2t On3	795
PRR B-1 Electric powered pair O Scale	480
PRR GG-1	1085
SR&RL 2-6-2 16 On2	319
GE 44 Ton Diesel O Scale	250

Iron Horse Models

D&RGW 4-4-0 Original w/fluted domes	625
Climax 42 ton w/loggers caboose On3	730
16 Ton T-Boiler Shay On3	650

Books at Discount

Westside by Mallory Hope Ferrell	$26
Articulated Locos of N. America (SUN)	36

Parts & Details; Hundreds in Stock

Precision, Backshop, Grandt, CHB, Detail Associates, Chooch, Model Masterpieces, MV lenses.
Alphabetical listing of in stock parts $2.00

BOOKS

RAINBOW ROUTE; Sloan & Skowronski – with authors inscription $35.00
Detailed History of SRR, SG&N & SN, 415 photos, 19 O scale plans, maps, 416 pp.

SILVERTON RAILROAD CO'S. — Sloan $3.75
Short history SRR • SG&N • SN, 13 HO plans, maps, 52 pp.

BRASS PHOTO ENGRAVINGS

	HO	S	O
2 truck RGS Galloping Goose	$15	$20	$30
3 truck RGS Galloping Goose (both bodies)	$15	$20	$30
Silverton Northern "Casey Jones" railbus	$10	$20	$20
DSP&P Mason Bogie complete kit		$90	
D&RG #1 "Montezuma"	$20		$40
2 foot gauge Hinkley or Portland O • 4 • 4t	$20		$40
2 foot gauge Baldwin 2 • 4 • 4 • T B&SR6, SRRL8	$20		$40
2 foot gauge SR&RL 23-24 2-6-2	$20		$40
C&S 57-62, 63-70, 4-10 cabs & tenders	cabs $5 each	$10 ea	
D&RG 346, 318, T-12, C-21, RGS cabs & tenders	Tenders per road set of 3 or 4		
SN 3, 4, 34 cabs & tenders; Colo., Mid. cabs	$15	$30	

	N	HO	S	O
Westside Lbr. Co. Locos & cars		$2		$4
Colorado Work Cars (white)		$2		$4
Pre-1906 Colo. Locos (mixed gold & white)	$2	$4	$4	$8
D&RG – Mears roads freight cars 1870-1921	$2	$2	$4	$4
South Park – C&S freight cars 1872-1942	$2	$2	$4	$4
Two 1883 D&RG Billboard Reefers	$2	$2	$2	$2
Fancy Gold Passenger Cars all NG		$4	$8	
Catalog & Lettering Guide $1.50				

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Perhaps a bit of an exaggeration, but we are continuing to build our collection of Rio Grande, C&S, SR&RL and other narrow gauge brass and kits in all scales. We certainly want to try to meet your narrow gauge needs. Visit the new Downtown Hobby soon.

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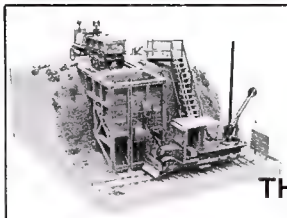
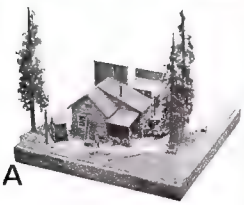


The
Scale Model Weathering Company
presents
Volume II
THE ART OF THE DIORAMA
by Gary Nash and Mic Greenberg



This booklet covers all aspects of building a diorama or display, such as • Generating Ideas • Design • Buildings • • Scenery • "Clutter" • and Finishing Touches. Plus more pages, photos, and details than Volume I. $5.00 plus $.50 postage and handling.
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Vol. 1 (Weathering Techniques) at $5.00 plus $.50 postage & handling, Vol.1 color pack at $4.00 plus $.25 postage and handling, both still available.

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RIP TRACK

$2.00 for 15 words or less, name and address free. Additional words .10 each. Ad must be paid for in advance. Riptrack deadline is the 15th of the second month preceding the month of publication, i.e. March 15 for the May issue.

Please furnish a street address for the GAZETTE'S private records when you use a P.O. Box number in your ad. Type or print your ads neatly. Thanks.

TWO NEW LAMBERT HOn3 right #6 switches; used good working order Lambert HOn3 switches three #6 right; four left ;two #4 right, four left; one Simpson #6 left; dual gauge Lambert transition section, one right, one left; one Simpson switch EIRHC right; one EILHA left; Arvid Anderson kits HOn3 three #6 right; two #4 right. Sell as complete pkg. $80 prepaid. Patrick Stauter, 1431 Walnut, C-5, Canon City, CO 81212. (303) 275-4745.

WANTED: NWSL S.P. #1 HOn3 diesel. Must be new or very little used. Consider more than one. Write: Hugh A. Burdwood, Box 214, Bartlett, NH 03812.

CARS CUSTOM BUILT to your order or your kits built and finished. Locomotives modified, remotored, sound installed, etc. Send SSAE for prices or estimates. The Back Shop, Box 1263, Sedona, AZ 86336. Phone 1-602-282-3747.

FOR SALE: SS Ltd. Jennings Lumber Co. Kit, $50.00. David F. Thompson, 7112 Fox Hill Dr., Solon, Ohio 44139.

FOR SALE OR TRADE for O-On3: Have HOn3 Westside Lumber Co. flat cars and equipment. Cars are complete. All letters answered. (Have several cars.) J. Francisconi, P.O. Box 1264, Sta. A, Burlingame, CA 94010.

FOR SALE OR TRADE for O-On3: Have Westside Models C-16 #278, mint (no tender), three S.P. whale back tenders #1, #8, #18 (HOn3), misc. rare Finescale kits, several SS Ltd. Apartments and other misc. kits. Ken Kidder Plantation Locos, Diamond Forney 2-4-4T, also other HO items. All Letters answered. J. Francisconi, P.O. Box 1264, Sta. A, Burlingame, CA 94010.

FOR SALE OR TRADE for O-On3 Brass: 90% complete – 1940 Ford Two Door Sedan (Graffiti) plus garage full of parts for this car – frame, fenders, hoods, motor parts, Columbia two-speed rear end, etc. Car is not running but restorable, good body, no rust. All letters answered. Serious only please. J. Francisconi, P.O. Box 1264, Sta. A, Burlingame, CA 94010.

TRADE: *Rails in The Mother Lode* plus $5 for *Rio Grande Southern Railroad* by Crum or for *Colorado Memories of the Narrow Gauge Circle* and $5. Other deals considered. R.C. Albert, 557 Washington Ave., West Trenton, NJ 08628.

JOHN KRAUSE NEGATIVES FOR SALE: Original action, roster, scenic view black and white negatives of mainline, shortline and narrow gauge railroads. Send for list to Theodore F. Gleichmann, Jr. 17 Murphy Circle, Florham Park, NJ 07932.

PFM Pacific Coast Shay 1st Run $255, Westwood C P Observation Car kit $10. J. Geib, RD #1, Box 456, Mount Joy, PA 17552.

WANTED: HOn3 brass engines and rolling stock; structures and miscellaneous equipment. Also Fine Scale Kits. Daniel Williams, 460 Brookfield Rd., Drexel Hill, PA 19026.

FOR SALE: PFM sound system with reverb installed. Tested but never used on layout. Key D&RGW #583 $110. Westside Sierra #24 $90. Daniel Williams, 460 Brookfield Rd., Drexel Hill, PA 19026.

WANTED: Ken Kidder HOn3 0-4-0 plantation locomotive. Steven Manwell, 902 Second St., Liverpool, NY 13088.

RIC'S ETCHINGS has relocated to Oregon's Blue Mountains. Send a large SSAE for our latest expanded 1980 listing of On2 etchings, models, kits and parts. Ric's Etchings, 1413 SW 46th St., Pendleton, Oregon 97801.

FOR SALE: Durango Press On3 RGS Rotary #2. Custom built and professionally painted and weathered. Beautiful! $350.00 R. Masterson, P.O. Box 3476, Ventura, CA 93003.

FOR SALE: HOn3 Shays, Heislers, Mallets, car kits. SSAE for list. Chuck Henry, 1906A Anzio, Ft. Irwin, CA 92311.

FOR SALE: Westside C-25, custom paint $115.00. Want: Yorke HO 108 Stone Depot, FineScale Kits, FineLines, Slim Gauge News and **GAZETTES**. T.H. English, 2132 Lakeview Cir., Matthews, NC 28105.

D&RGW PFM K-37 $355.00, 2 Car Passenger $84.00, Westside #0575 Caboose $40.00,Frameless Tank car $35.00, Tomalco Narrow Frame Tank Car $35.00, Gondola kit $6.50, Rail Line Box kit $6.00. Robert J. Chilton, 3008 Raymond Ave., Roslyn, PA 19001.

WANTED: AHM or other HOn2½ locomotives and rolling stock. Send list with prices. J.F. Scudder, 4406 Mt. Read Blvd., Rochester NY 14616.

FOR SALE: USM 13-ton shay w/micromotor drive, trucks, ties and cars. All must go. SASE for list. Best offer. T. Liesegang, 2109 W. Sequoia Dr., Phoenix, AZ 85027.

VIRGINIA & TRUCKEE conductor's ticket punch, rare, stamped V&T RR. Best written offer, no phone calls. J.C. Benson, 402 So. Division St., Carson City, Nevada 89701.

HO-HOn3 BRASS, some rare. PFM, Balboa, Westside, etc. List, SSAE. Matched set Shay "Koch Books", mint, $300.00. J.C. Benson, 402 So. Division St., Carson City, Nevada 89701.

MDC HOn3 2-8-0 inside frame kit, modified for lower boiler, with Kemtron Ma & Pa cab $22. Peter Tuttle, 33 Stockholm Ave., Pigeon Cove, Mass. 01966.

WANTED: **GAZETTE** Vol. 1 #2, 3. For sale or trade, *Rails to The Rockies,* $14.00 Dan Marmell, 6156 Camino Largo, San Diego, CA 92120.

FOR SALE ON3 Gauge, all mint assembled, test run and tuned except Mich-Cal Shay. Iron Horse Models: Either K-27 #461 $1,200 or K-27 #463 $1,100. Climax w/caboose $700.00. T-boiler Shay $650.00. Mich-Cal Shay $550.00. 4-4-0 late version $550.00. NC NG 2-6-0 $500.00. Sunset Models: C-16 $350.00. C&S #74 $400.00. K-28 $550.00. ATSF Caboose $75.00. ADDM: 2 Dome Texaco $90.00. 6500 Flat-Car $50. D.L. McKee, 12 Tara Hill Road, Tiburon, CA 94920. 415/435-1989 or 381-0505.

WANTED: Parts, superstructure etchings and drivers for On2 B&SR #7 2-4-4T, originally offered by Narrow Gauge Specialties. David Etchells, 1616 Green Pl., Longmont, CO 80501.

FOR SALE: On3 Kemtron woodburning shay, Grandt drive, assembled and painted. $350.00. LMB 2-6-6T, Maxon Motor $275.00. Joseph Baio, 1355 W. 8th St., Brooklyn NY 11204. 212/256-1360.

FOR SALE: K-37 by IHM #491, $885.00, Jim Topil, 1375 Grape, Denver, CO 80220. (303) 320-6866.

FOR SALE: U.S Hobbies 13 Ton Shay, Grandt drive, converted to On2, unpainted, $290.00. Custom Brass On2 SR&RL Combine, brand new, $90.00. Dan Reagan, 7416 S. Ivy Way, Englewood, CO 80112.

FOR SALE: PFM D&RGW C-48, unpainted, absolute mint condition, $700.00. Dan Reagan, 7416 S. Ivy Way, Englewood, CO 80112.

FOR SALE: WSMC HOn3 WSLC Shay #8, new, never used, in original box, $390.00. NG&SLG Vol. 1, #1 through Vol. 5, #6 complete set, $200.00. *The Shay Locomotive,* and *Steam & Thunder in the Timber,* both by Koch, both numbered #5426, sold as a set only, $275.00. Slim Gauge News, Vol. 2, #3 to Vol. 4, #4, and Finelines, Vol. 9, #4 through Vol. 11, #5, some damaged, as a set, $65.00. Marden Mull, 1394 Tally Ho Lane, Norco, CA 91760.

FOR SALE: On2 SR&RL passenger cars, parlor #9, coach #22, combine #14. Construction/sides and ends, 4-ply bristol with wood overlay, wood roof (removeable), built-up floor, complete underbody detail, Coronado underbody detail, Coronado Scale Models passenger trucks painted black, Grandt wheels, Kadee couplers. Cars painted Brunswick Green, SR&RL decals. Ready to roll on your On2 layout. C. Morse Jr. Box 758, Wareham, MA 02571.

FOR SALE: On2 SR&RL stock, tool and cabin, 28' x 33' pulpwood, grain and milk cars. C. Morse Jr., Box 758, Wareham, MA 02571.

FOR SALE: On2 free lance log bunks, tank car and caboose. C. Morse Jr., Box 758, Wareham, MA 02571.

FOR SALE: On2 WW&F caboose, coach and combine 4 & 5. C. Morse Jr., Box 758, Wareham, MA 02571.

FOR SALE: On3 Sunset #278 w/KTM gear set $300.00. DP RGS plow flanger O2 kit $55.00. David Weber, 3S510 Winfield Rd., Warrenville, IL 60555.

WANT: Scenic Architectural Materials Trees; #120 Large Spruce, #121 Medium Spruce, #122 Small Spruce, #131 Small Pine. New boxed trees only. Offering $5.00 US per box. Gerald White, Box 1155, Barrhead, Alberta, Canada, TOG OEO.

CDS Lettering has sets for narrow gauge – WP&Y, DSP&P, UPD&G, D&RG. Also 150 sets for standard gauge. Send $1 to Larkspur Line, P.O. Box 9283, Altavista Terminal, Ottawa Ontario, K1G3T9. Request HOn3 sample and listing.

FOR SALE: On3 D&RGW all mint brass: PFM T-12 4-6-0, $450. Westside C-21 2-8-0, $350 (including 87 prototype photographs), IHM Class 42 4-4-0, $550. CB Long Caboose, $70. Westside Wheel & Tie car, $25. Paul Garwig, 5 Montague, Trenton NJ 08628.

CHANGING SCALES – from HO/HOn3 to O/On3 will trade or sell. Have logging/mining power, geared, small rod types to road power, passenger, work, freight cars, brass rolling stock, FSM, SS Ltd., Campbell and detail items. 28¢ and SSAE for full listing, John Joy, 5 Duffield Rd., Coram, NY 11727.

WANTED: Old stock certificates and bonds – any quantity! Also annual passes and timetables. Please write! Ken Prag, Box 531NG, Burlingame, CA 94010.

WANTED– Old Shays: International, Austin, PFM C-3, 90-2, Flywheel. Reward for solid leads too! Charles Crehore, 100 W. Washington, Phoenix, AZ 85003.

CUSTOM STRUCTURE BUILDING: All types. Engine service facilities, bridges, town, industrial and railroad wayside structures. HO and O kit building service offered (Campbell, Fine-Scale, etc.) Send 50¢ for illustrated brochure to Brum's Detail House, 16 High St., Peterborough, NH 03458.

PASSENGER carrying trains, steam, gas, assorted track, gauges, parts, photos. Details $3.00, currency. Write "TRAINS", 560 Kelley Blvd., North Attleboro, MA 02760.

HO BRASS FOR SALE: NWSL 2-8-8-2 Weyerhauser #201 $395, 2-6-2T Georgia Pacific #9 $165, 2-6-2T Peninsula Terminal #103 $165, SP #1 Diesel (HOn3) $85, PFM 2-8-0 Ma & Pa (Old time version) $150, 4-6-0 SP #9 (HOn3) $100. All in original boxes and none painted. Sattler's Hobby Shop, 14 Haddon Ave., Westmont, NJ 08108. 609/854-7136.

FOR SALE: PFM Late run On3 K-27 and O gauge C-48. Both mint, TRO. $900.00 each. Will paint and add sound to either. Kelley Morris, 206/774-8731 or 206/774-1410 evenings. P.O. Box 112, Lynnwood, WA 98036.

CHANGING SCALES – Have 8 HOn3 D&RGW locomotives (PFM/Westside) plus cars/turnouts to trade for On3. Most locos Tro/some with micromotors. Especially want On3 Sunset K-28. Jeff Noll, 426 Westminster Ave., Ventura CA 93003, 805/647-0055.

QUITTING: Sell my complete HOn3 brass collection, complete or individual pieces. Includes Heisler and San Juan set. All excellent, professional paint. Send for complete list. Cleveland, 12585 Jones Bar Rd., Nevada City, CA 95959.

FOR SALE: On3 mint PFM K-27, IHM K-27 #461, Sunset C-16 #278, RGS #74. Tomalco, Grandt, DP, and other kits. 37 Paul Ave., Peace Dale, RI 02883. 401/783-8090.

FOR SALE: CB On2 SR&RL #6 w/large Sagami motor and PFM Sound w/standard speaker below window level. Painted grimy black $300.00. A. Veselosky, 8002 Hazeltine Ave., Van Nuys CA 91402.

FOR SALE: Westside HOn3 K-28. Latest run, brand new, unused. $390. Consider On3 trades. Bob Gotthelf, Box 392, Remsenburg, NY 11960.

PAINTINGS FOR SALE: Original oil painting reproduced on the cover of this magazine. "Sandy River #15", an oil painting 21" x 20" in size. $600.00 framed and shipping included. Two paintings reproduced in PFM's Westside book. The "Westside Montage" on introduction page, an acrylic painting 13" x 16", $500.00 framed and shipping included. "Westside Reflections" on page 177. An acrylic painting 15" x 20", $500.00 framed and shipping included. Contact Jim Finnell, P.O. Box 1836, Lynnwood, WA 98036.

DURANGO PRESS: Special offer, not to be sold in hobby shops. On3 class 56 C-16 tender kit. All brass etched shell has a single line of rivets, not available til now. Real wood frame, with all fittings, trucks, and coupler included. We only have fifty of these kits. $39.00 plus $2.00 shipping and handling. Durango Press, P.O. Box 1836, Lynnwood, WA 98036.

FOR SALE: W.S.M. – Westside Lmb. Co. #8 HOn3 $375. Akane – 2-4-4-2 $275. P.F.M. – V&T "RENO" $75. M.E.W. – Steeple cab elec. 2/arched windows $100. F.S.M. – Depot #110 $85; Sawmill #170 $30. Dan Kempf, 4010 Loch Alpine Dr. W., Ann Arbor, MI 48103.

CLEANING HOUSE: IHM #461 K-27, 920. PFM O Heavy 2-8-2 by Toby 980. PSC Porter 0-4-0T, both cabs 300. USH 13 Ton Shay, Grandt drive 300. PSC On3 WSLCo caboose 46. IHM K-27 #453 Tender RTR 136. GAZETTES, 3-75, mint 20. 3-75, 7-75, 9-75, 11-75, 1-76, 35. FL 1-74, 3-74, 7-74, 9-74, 12. J.F. Richards, 307 Rother Ave., Buffalo NY 14211.

WANTED: On3 Simson or Slim Gauge short caboose, Simson RGS long, CM Tanks, SRE Epoxy 3000 series box, PSC caboose trucks, Kadee spiker, Untouched kits only. A McLaughlin, 273 Marrano Pkwy., Cheektowaga NY 14227.

BEAT INFLATION! Save money! Brass Hogger Outlet sells factory fresh brass locomotives and rolling stock at prices so low that you'll have to see our "Timetable" to believe them! Our deals will amaze you! All brass is fully guaranteed; if you're not completely satisfied, just return the item to Hogger for a full refund. And that's not all! With every order, Hogger will send you a crisp $1.00 bill. Get your free copy of "Brass Hogger Outlet Timetable" today. Send LSSAE to: Brass Hogger Outlet, P.O. Box 415-A, Dublin, Ohio 43017.

HOn30 Darjeeling RR 0-4-0t white metal kit, requires Rapido 0-6-0 chassis $12. U.S. postpaid. N Scale white metal Aveling & Porter Taction engine & crew van $6. U.S. Over 100 N. acc. Specialty Service, R.R. No. 1, Box 28, Kinsac, NS B4C 2S6. 902/865-2585.

"MISS" the Great Freight '79? Sets of color prints or slides will be offered if sufficient interest is indicated. Drop us a postcard and we'll send a descriptive list and prices. Rock Creek Models, 408 11th Avenue, Longmont, CO 80501.

TOOK a beautiful HOn3 collection in trade. Available are NJ C-21, Balboa C-21, Westside C-16 #278, K-27 piston valve w/cab interior, K-36, C-25, Kemtron C-16 FED 1910 4-4-0; DP Rotary OM built-up, RGM Flanger OE, Freight and Passenger cars. Also Sn3 C-16 Tomalco early issue, rare On3 Leetown 3-truck Climax kit. SSAE for details. Rock Creek Models, 408 11th Avenue, Longmont, CO 80501.

THE BRASS SPECIALISTS – At last, our computer is arriving, and we can provide you our up-to-date list of brass values, including current items, used brass, and the finest collector's pieces. Hundreds to select from at competitive prices. See many at J&M Trains, Maumee, Ohio, or write for our free list. Bill's Brass, 720 Home Federal Bldg., Toledo, Ohio 43604.

FOR SALE: Weathered rail turnouts in code 55, 70, 83 and 100 rail for N, HOn3, HO, Sn3, On2, On3 and ¼AAR. Send SSAE for list. Darr's Scale Models, Box 81, Hawthorne, NV 89415.

THE CABOOSE IS MOVING! We are overstocked and must simplify our move. 30% off parts – Kemtron, Grandt, PSC, Back Shop, U.S.H. Many books, Send your Want Lists. Caboose Stop Hobbies, 1610 Jefferson, Waterloo, Iowa 50702. 319/235-9571 or 275-4446.

THE 'CABOOSE' IS MOVING! Everything's gotta go! We're finding more brass as we pack. On3 Balboa K-36 *never opened* $695.00; On3 PFM Frame Tank Car $115.00; ADDM Double Dome tank $115.00; many more. Write for list: Caboose Stop Hobbies, 1610 Jefferson, Waterloo, Iowa 50702. 319/235-9571 or 275-4446.

FOR SALE: Collector's item. Only 3 issues published of THE TURNTABLE. Have limited quantity and will sell in sets (3 issues to set). Send $4.00 to: T.D. Jones, 827 W. Birch, Redmond, OR 97756.

FOR SALE: O Scale passenger trucks – New Product! Available now: six-wheel Pullman Heavyweight trucks, fully sprung, including wheels and brake rigging. Kit $22.95. Send SSAE for brochure to The Calumet Shops, Box 235, Morro Bay, CA 93442.

FOR SALE: #455 in On3, PFM K-27 with sound, cutom paint, cab windows, coal load $1025. Call Randy Wilson, (805) 832-5826. 1209 Lindsay Drive, Bakersfield, CA 93304.

ON3 FOR SALE: Iron Horse Models, Kodama K-27 #461 inside pistons, $1095; #463 outside pistons, $1195. Both mint. Kemtron C-16 kit, modern version, many extras. $220. SSAE for details. Richard F. Mihalyi, 1032 Palms Blvd., Venice, CA 90291.

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Plus Parts 2 of both Up Clear Creek Canyon and The C&NW Narrow Gauge

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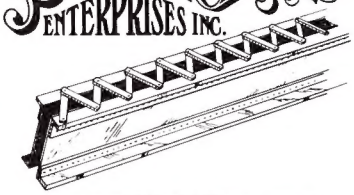

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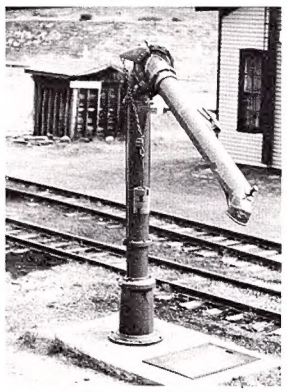

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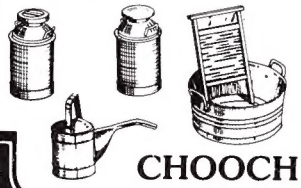

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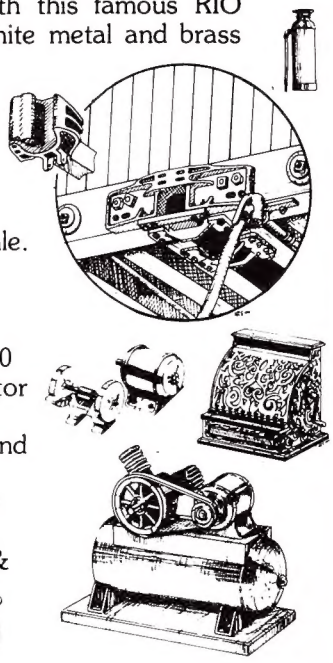

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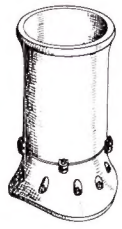
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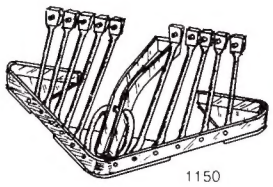
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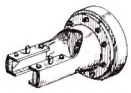
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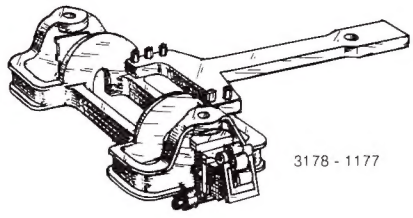
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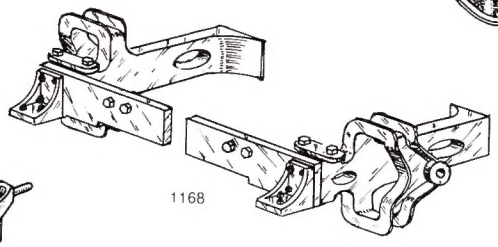
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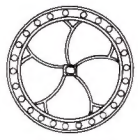
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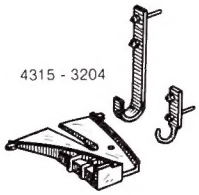
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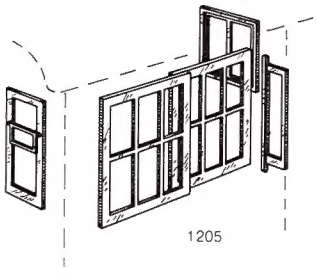
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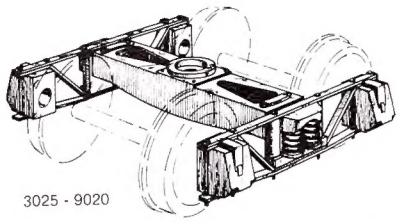
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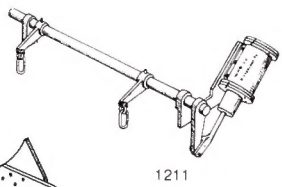
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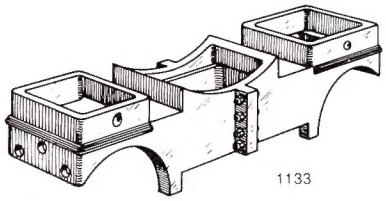
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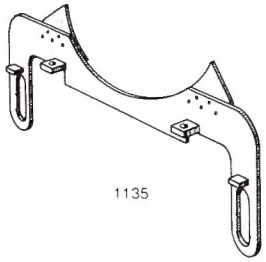
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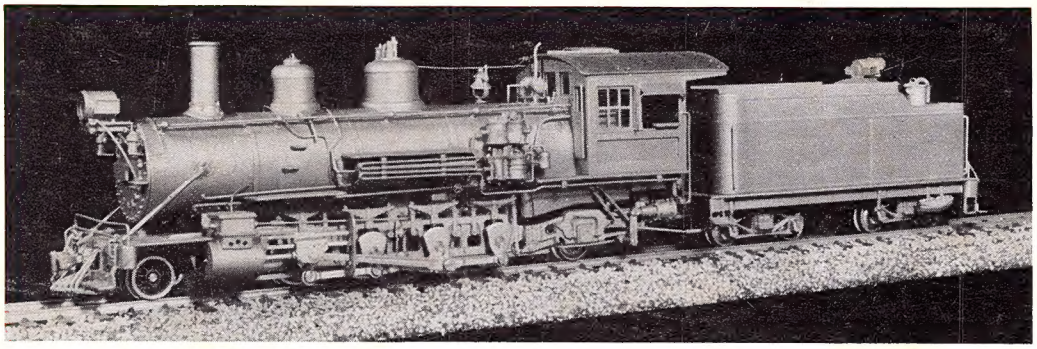
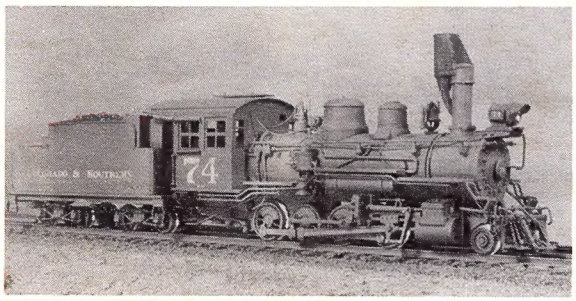
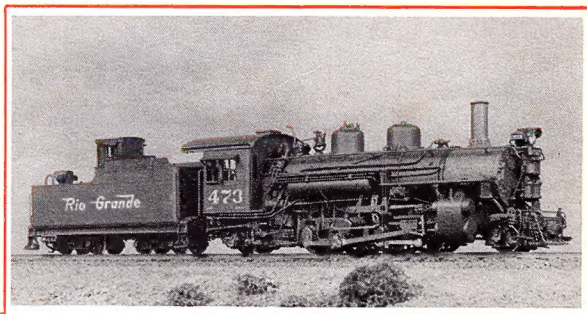


. . . you could buy an HOn3 2-8-2 locomotive for way less than $200.00 and it was made in Japan? You still can even though it is 1980! There are a few Westside **K-27 "Modern Slide valve"** engines still around. Complete with 16MM can motor, plenty of detail and a cab with operating doors this little "Mudhen" still sells **for less than $180.00!** Ask your dealer to order for you since there are but a few left.

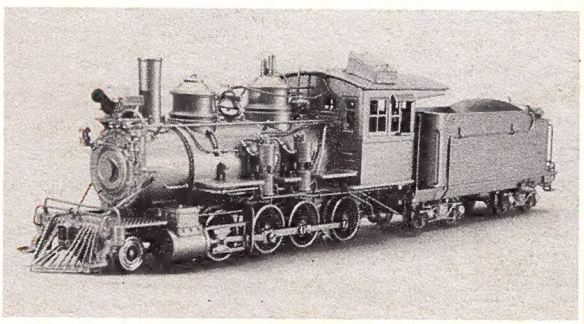
. . . or how about a later model, the famous **C&S — RGS "74" 2-8-0**? This little HOn3 mover cost **less than $230.00** a year ago, still costs about the same a year later and is made in Japan: Interesting when the same wheel arrangement out of Korea costs over twenty dollars more! Westside still has a few of these mini-muscle engines available through your local dealer.





. . . and remember **the K-28**? Now there was an engine that was surpassed by no one. **Full cab detail, coreless motor, fully detailed by PSC, working cab doors, two stacks, rounded cab corners, movable foot plate, optional number boards** and **marker lamps with a doghouse** for the tender. It costs more but you get more . . . a whole lot more locomotive that only Nakamura, of Japan, could assemble.

Westside's miniscule **C-16's** have always been "BIG" sellers within the HOn3 fraternity. The **"271"** comes and goes but so far we have been lucky in that the price has not changed radically. With coreless motor and full cab detail the C-16 can still be found here n' there for **less than $250.00**.



The "FIRE TRAIN" has returned. All new, this version uses engine 2252 on the head end. A few years back when Westside imported this unique train they sold like hot cakes. The 2252 version will be extremely limited in numbers so order through your dealer ASAP.

Prototype Photo
G. M. Best

Volume I of the "G"-Files is complete and at your dealer. Volume II is due for completion later this month.

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